

AUSTRALIAN

ISSN 1442-2697 [www.agcsa.com.au](http://www.agcsa.com.au)

# Turfgrass

VOLUME 19.3 MAY-JUN 2017

MANAGEMENT JOURNAL

**Rising stars**  
FTMI Class of 2017

**Flying high**  
Pelican Waters prime  
for AGCSA Golf  
Championships

**On course**  
Kew's new look

**Back to basics**  
Five fundamentals for  
improving your greens

**Return to Twin Waters**  
Welcome to the 33rd Australian Turfgrass  
Conference and Trade Exhibition





# LET THE FINISH MAKE ALL THE NOISE, NOT THE MOWER.

"Before we purchased the Eclipse®322, we couldn't cut all of the greens early in the morning due to the nearby residential area. Now, we are able to keep local residents happy with the all-electric Eclipse®322 greens mower; it is such a quiet machine.

The quality of our greens has improved beyond expectation. I had heard about the Jacobsen quality of cut, but I didn't realise quite how good it was. The bar has certainly been raised for greens mowers with the Jacobsen Eclipse®322."

**Leon Hennessy,**  
Course Superintendent, Cromer Golf Club



OFFICIAL SUPPLIER  
2018 RYDER CUP

Call **1800 465 226** or visit  
[www.jacobsen.com](http://www.jacobsen.com) to find your local dealer.

[www.jacobsen.com](http://www.jacobsen.com)

facebook

twitter

YouTube



ATM/CromerGC/5/2017

**JACOBSEN**



I wish to apply for:  
**One year's subscription  
 to Australian Turfgrass  
 Management**  
*(Six editions per year)*

PLEASE TICK BOX

ONE COPY PER EDITION

☐ \$70.00

O/S ONE COPY PER EDITION

☐ \$110.00

Prices include GST.



**SUBSCRIBE  
 NOW**  
**AGCSA**

**ORDERS CAN BE MADE SECURELY ONLINE THROUGH [www.agcsa.com.au](http://www.agcsa.com.au)**

Name: .....

Company: .....

Postal Address: .....

Town/Suburb: ..... State: ..... Postcode: .....

I enclose cheque for (amount): .....

Please charge my credit card: ☐ MasterCard .....

☐ Visa .....

Card Number: ..... Expiry Date: \_\_\_\_/\_\_\_\_

Cardholder Name: .....

Address: .....

Signature: .....

☐ Funds have been paid by electronic transfer to Westpac BSB 033 380 Acc 385360

☐ Please send me more information about becoming an AGCSA member

Forward to: **Australian Turfgrass Management**  
 Suite 1, Monash Corporate Centre, 752 Blackburn Road  
 Clayton, VIC 3168  
 FAX: (03) 9548 8622

**Australian Turfgrass Management  
 Journal is published by the**  
 Australian Golf Course  
 Superintendents' Association  
 ABN 96 053 205 888

**Editorial and Advertising**  
 Brett Robinson  
 Office: (03) 9548 8600  
 Mobile: 0434 144 779  
 Email: [brett@agcsa.com.au](mailto:brett@agcsa.com.au)

**Art Direction & Design**  
 Jo Corne  
 Office: (03) 9548 8600  
 Email: [jo@agcsa.com.au](mailto:jo@agcsa.com.au)

**Australian  
 Turfgrass**  
 MANAGEMENT JOURNAL

**AGCSA**

**AGCSA**  
 Suite 1, Monash Corporate Centre  
 752 Blackburn Road, Clayton, VIC 3168  
 P: (03) 9548 8600 F: (03) 9548 8622  
 E: [admin@agcsa.com.au](mailto:admin@agcsa.com.au)  
 W: [www.agcsa.com.au](http://www.agcsa.com.au)

[www.facebook.com/our.agcsa](https://www.facebook.com/our.agcsa)

[www.linkedin.com/in/agcsa-australia-289055127](https://www.linkedin.com/in/agcsa-australia-289055127)

[www.instagram.com/ouragcsa/](https://www.instagram.com/ouragcsa/)

@AGCSA2 and @AGCSACEO

#### AGCSA Board

**President:** Brett Balloch  
**Directors:** Darren Wilson  
 Peter Loneragan  
 Stephen Lewis

#### Events and Education Manager

Simone Staples  
 E: [simone@agcsa.com.au](mailto:simone@agcsa.com.au)

#### Membership Coordinator

Allison Jenkins  
 E: [admin@agcsa.com.au](mailto:admin@agcsa.com.au)

#### Accounts

Philip Horsburgh  
 E: [philip@agcsa.com.au](mailto:philip@agcsa.com.au)

#### AGCSATech

Bruce Macphree (Environmental Agronomist)  
 E: [bruce@agcsa.com.au](mailto:bruce@agcsa.com.au)



**Australian  
 golf media**  
 ASSOCIATION

**Printed By**  
 Southern Colour Pty Ltd  
 2 Southpark Close  
 Keysborough  
 Vic 3173

Copyright © 2017  
 The AGCSA believes that material sourced and produced for Australian Turfgrass Management is accurate, but gives no warranty in relation thereto, and disclaims liability for all claims against the AGCSA, its subsidiary companies, its employees, agents or any other person which may arise from any person acting on the materials contained within. No portion, in whole or part, may be reproduced without the written permission of the AGCSA.





## COVER

**Pelican Waters Golf Club:** The 18th hole at the Greg Norman-designed Pelican Waters Golf Club on the Sunshine Coast, host of the 2017 Toro AGCSA Golf Championships.

**Photo:** Gary Lisbon  
[www.golfphotos.com.au](http://www.golfphotos.com.au)



## LEAD STORY: Flying high - Pelican Waters Golf Club

6

Troy Muir loves his birds so it's quite apt that since 2011 he has been course superintendent at Pelican Waters Golf Club near Caloundra, Queensland. The Greg Norman-designed course, which ranks among the top 60 in Australia, is preparing to play host to the 2017 Toro AGCSA Golf Championships which kicks off the 33rd Australian Turfgrass Conference and Trade Exhibition on 25 June. ATM editor Brett Robinson reviews the course, maintenance operations and looks at Muir's unique hobby which helps to take his mind off the rigours of modern day turfgrass management.

## FEATURES

### FTMI Class of 2017

12

Following the success of last year's inaugural event, the AGCSA Future Turf Managers' Initiative, presented in conjunction with AGCSA Gold Partner Jacobsen, returns in 2017 at the 33rd Australian Turfgrass Conference. ATM profiles the 15 successful Australian-based candidates who made it through the grueling selection process, as well as the five NZGCSA candidates who will make the journey across the Tasman to join them at Twin Waters.

### Kew's new look

20

Over the past 15 months Kew Golf Club in Melbourne's inner east undertook an audacious greens replacement programme which has seen all greens reconstructed to USGA specifications and grassed with MacKenzie bentgrass. For recently appointed course superintendent Cameron Hall it has been one of the biggest and most rewarding projects of his career.



### Back to basics

24

Understanding and perfecting the fundamentals of plant nutrition, water management, pest management, mower setup and topdressing will elevate any putting green management programme write Chris Hartwiger and Zach Nicoludis.



### Contractor checklist

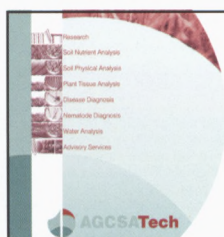
30

Appointing the right contractor can make or break any course improvement works that a golf club or turf facility is looking to undertake. 33rd Australian Turfgrass Conference keynote presenter Lee Strutt takes ATM readers through his five step process to ensure a successful outcome.

### Creeping bentgrass response to combined stresses

56

Joey Young, 33rd Australian Turfgrass Conference keynote speaker Prof. Mike Richardson and Doug Karcher outline their research project which examined creeping bentgrass putting green response to combined mowing height, rolling and foot traffic when under high environmental stress.



## TIME FOR SOIL TESTING!

Let us provide you with a **truly** independent soil report

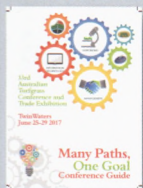
Send samples to **AGCSATech**  
Analytical, Diagnostic and Consultancy Services

Ph. 03 9548 8600  
Fax. 03 9548 8622  
Email. [andrew@agcsa.com.au](mailto:andrew@agcsa.com.au)  
[bruce@agcsa.com.au](mailto:bruce@agcsa.com.au)

Suite 1, Monash Corporate Centre  
752 Blackburn Road  
Clayton 3168 Vic



## WELCOME TO TWIN WATERS 2017



### Your guide to the 33rd Australian Turfgrass Conference 39

Following a successful venture to the Sunshine Coast in 2013, the Australian Turfgrass Conference and Trade Exhibition returns to Novotel Twin Waters Resort this June. ATM previews one of the most anticipated weeks on the turf industry calendar and profiles the finalists of the AGCSA Graduate of the Year and the STA Sports Turf Graduate of the Year awards, both sponsored by AGCSA Platinum Partner Toro. See you there!

### GRASS-ROOTS WITH JOHN NEYLAN



#### The power of *Poa* 50

Respected ATM columnist John Neylan reviews the recent series of meetings held by golf course superintendents and industry experts to discuss herbicide-resistant *Poa annua* and some of the worrying results to emerge from testing on samples around the country. He also outlines a new research project looking at comparing the hours of use for different sportsfield construction types and maintenance inputs.

### Also in this edition...

Foreword Thinking	4
AGCSATech Update	36
Regional Profile – Blue Lake Golf Links, SA	62
Around the Trade	68
Association Reports	72
Up the last...	80

#### Contributors to Australian Turfgrass Management Journal Volume 19.3 (May-June 2017)

Brett Balloch (AGCSA); Bazz Bryant (SAGCSA); Darryl Edwards (Burleigh GC); Stuart Gill (NSWGCSEA); Neil Graham (GCSAWA); Tony Guy (STA WA); Cameron Hall (Kew GC); Chris Hartwiger (USGA); Callum Hitching (Karratha, WA); Steve Hodson (NZGCSA); Andrew Hutchings (Blue Lake Golf Links); Allison Jenkins (AGCSA); Doug Karcher (University of Arkansas, USA); Gary Lisbon (www.golfphotos.com.au); Bruce Macphee (AGCSATech); John Mann (Woodlands GC); Steve Marsden (Royal Sydney GC); Colin Morrison (Flinders GC); Troy Muir (Pelican Waters GC); John Neylan (Turfgrass Consulting and Research); Zach Nicoludis (USGA); Mat Poultney (VGCSA); Karen Proctor (Jacobsen); Prof. Mike Richardson (University of Arkansas, USA); Kellie Rose (STANZ); Simone Staples (AGCSA); Lee Strutt (Royal Automobile Club, UK); Ben Tilley (Headland GC); Peter Watts (Muirfield GC); Darren Wilson (Wembley GC); Col Winterton (Medway GC); Joey Young (Texas Tech University); Mark Young (Royal Sydney GC); Jenny Zadro (STA Australia); 2017 AGCSA FTMI candidates and finalists of the 2017 AGCSA Graduate of the Year Award.

## In good hands

The road to becoming a course superintendent can be a long one and when you do make it to the top it can be tenuous at the best of times. Mother Nature, as always, has a tendency to make even the most skilled turf practitioner question their abilities, while the challenge of dealing with expectations from committees, boards of management and members can make the job extremely demanding.

For those coming up through the ranks it can be a daunting prospect to take that next step up the career ladder. Just ask any first-time superintendent who has recently made the jump and you can guarantee they will tell you it is a very different ball game. Superintendents today are required more than ever to have a much more rounded skill set and while some may lament that the 'art' of greenkeeping is being blunted by the realities and demands of modern day management, the fact remains that if you are not across all aspects, or willing to become more proficient in them, then your stock in this industry will fall and fall quickly.

At last year's Australian Turfgrass Conference in Melbourne, the AGCSA, together with Gold Partner Jacobsen, conducted the inaugural AGCSA Future Turf Managers' Initiative (FTMI). Based on the successful programme that Jacobsen has implemented in a number of other countries, it brought together aspiring superintendents for two days of personal development and networking, all with the aim of assisting them to take that next step. It proved to be a great success and from it three members of the programme ultimately went on to secure superintendent roles, two for the first time in their careers.

The FTMI returns for a second year at the upcoming Australian Turfgrass Conference at Novotel Twin Waters Resort and to say that the AGCSA was overwhelmed by the response when it put the call out for applications earlier this year would be an understatement. In an industry where apathy can at times be its Achilles heel, the volume and quality of applications submitted was genuinely heartening. The number of applications (33) was nearly double that of last year, with the AGCSA and Jacobsen ultimately deciding to up the number of successful candidates from 13 to 15. They will join with the NZGCSA's five FTMI candidates who are also coming across for this year's programme.

Having read the applications of all the successful candidates as part of our FTMI feature in this edition, you cannot but be buoyed by the calibre of those coming through the ranks at the moment. The wealth of experience that some have amassed in just a short time in the industry is impressive and instils confidence that the next generation of superintendents coming through will be more than equipped to deal with the ever-changing nature of an industry which, at its heart, has to deal with change on a daily basis.

As part of the application process, the candidates were asked to not only list their strengths but also their weaknesses. It's a favourite question that many HR departments ask when recruiting a new employee, as it provides a great insight into that person's level of self-awareness and also whether or not they have the want to challenge themselves by remedying those areas of deficiencies. Virtually unanimous, the candidates listed staff management, budgeting and communication as the areas they needed the most assistance with in order to feel confident in taking the next step in their careers. This again vindicates why programmes such as the FTMI are much needed in our industry and vitally important in fostering the next generation of superintendent.

ATM congratulates all those who have made it into the FTMI Class of 2017 and trusts all will get a lot of out this year's programme at Twin Waters. See you there...



*Brett Robinson*

Brett Robinson, Editor



## 33rd Australian Turfgrass Conference and Trade Exhibition TwinWaters, June 26-29 2017

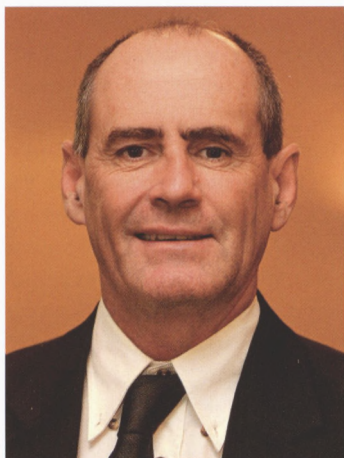
For information visit [www.agcsa.com.au/conference](http://www.agcsa.com.au/conference) or contact Simone Staples on (03) 9548 8600 or [simone@agcsa.com.au](mailto:simone@agcsa.com.au)



**Many Paths,  
One Goal**



# All set for a welcome (and warm) return to Novotel Twin Waters



**W**hen I was asked to write this Foreword Thinking piece before I step off the AGCSA Board at the upcoming Annual General Meeting at Twin Waters, I couldn't help but go back over my last six years as an AGCSA Director and what has transpired during that time.

My first Board meeting certainly won't be forgotten in a hurry. Myself and **Tony Fogarty**, then course superintendent at Club Catalina, were the newbies and to say we were confronted by challenges right from the get go would be an understatement. Within just a few minutes of the meeting getting underway, then AGCSA general manager **John Neylan** announced he was leaving, while board member **Bryce Strachan** also announced he was stepping off the Board.

Soon after AGCSA president **Allan Devlin** stood down, **Pat Pauli** did not renominate after serving for a number of years, while **John Odell** retired from Royal Sydney Golf Club. Within three months there was a new Board and a new chief executive in **Peter Frewin**! It was the sort of induction that I still chuckle about and remember as if it were only yesterday.

The ensuing five years proved to be stable and productive with the AGCSA Strategic Plan finalised and signed off. With the help of key stakeholders and members through interviews and surveys, the direction of the AGCSA was set out and documented not by one person alone but by all the stakeholders of the AGCSA.

The importance of this Strategic Plan should not be forgotten and sets priorities for the AGCSA in a range of areas including education, accreditation and membership. I encourage all members to go to the 'About Us' section on the AGCSA website to download a copy of the Strategic Plan and get a snapshot of where we may be in 5-10 years.

In recent times the AGCSA has partnered with the **PGA of Australia** to provide members with access to their expert HR department. The PGA's HR advisor **Vicki Crowe**, who recently conducted the highly informative joint seminars on mental health and wellbeing and effective modern leadership, has already helped a number of AGCSA members with their HR issues. In the coming months we will be adding new templates on the AGCSA website for members to download. Dealing with staff and committees/management can be, at times, the hardest part of our job, so if you require assistance in this area then please contact the AGCSA.

## TWIN WATERS 2017

The current AGCSA Board and staff are looking forward to the upcoming **33rd Australian Turfgrass Conference and Trade Exhibition** at Novotel Twin Waters Resort on the Sunshine Coast. A fantastic array of speakers and events are planned throughout the week so I encourage those members who have not yet registered to do so. Those who attended this venue in 2013 loved the atmosphere of a resort type conference where networking was its highest due to the smaller, more intimate venue.

Following some wonderful feedback from last year's conference delegates, we are blessed to have **Steve Herzberg** talk again after he blew people away in Melbourne with his communication seminar. He is back to deliver his 'Presenting with confidence' workshop which is aimed to help members present to their committees and boards. These workshops are gold and worth the trip alone if not for the warmer weather.

The AGCSA is pleased to again partner with Jacobsen for the **Future Turf Managers' Initiative**. This programme was a first in Australia last year



## The leaders in sports field drainage & sports field construction using the latest machinery & technology.

Staff with over 60 years combined golf course and sports field drainage, sports field construction & horticultural experience. Choose the specialists – 100% of our projects are either the drainage or construction of sports grass surfaces.

### Our Services include:

- Slit drainage • Laser controlled trenching • Sand grooving • Turf wicket construction to international level
- Sports field design & construction • Bowling green construction • GPS guided and two-way laser controlled grading

## Proven methods. Proven results.

PO Box 112, Mt Kuring-gai, NSW 2080 | Phone: (02) 8117 8100 Fax: (02) 8117 8101 | Email: info@turfdrain.com.au [www.turfdrain.com.au](http://www.turfdrain.com.au)





giving regional superintendents and metropolitan assistant superintendents a chance to attend the conference and be mentored by some of the country's outstanding superintendents. Again, congratulations to **Jacobsen** for their insight in delivering this highly rewarding programme (see page 12 for more on the FTMI Class of 2017).

Finally, I would like to thank the AGCSA staff for their dedication and hard work. This team of individuals never cease to amaze the Board and work fantastically as a team and lay the foundation of what is the AGCSA. Please make the time to ring the staff in the AGCSA office and inquire about anything that may help you with your ever-increasing workload. You will find their manner professional and helpful as they endeavour to answer your questions or steer you in the right direction.

I hope to see as many members as possible at the upcoming AGCSA AGM on Wednesday 28 June at Twin Waters. Please feel free to raise any issues or concerns you have with the running of the association, the Strategic Plan or ongoing projects. Remember that the Board is here to represent you and your feedback is always welcome. 🙏

## AGCSA BOARD ANNOUNCEMENT REGARDING CRAIG WOOD

**O**n Monday 22 May an email was sent to all AGCSA members from association president Brett Balloch on behalf of the AGCSA Board. The email regretted to inform members that as of Friday 19 May Craig Wood was no longer chief executive officer of the AGCSA. The Board thanks Craig for his contributions over the past seven months and wishes him well with his future endeavours.

The Board met with AGCSA staff the following week to discuss the way forward and wishes to advise the industry that it is business as usual for the association, with the primary focus on delivering a first-class Australian Turfgrass Conference at Twin Waters from 26-29 June.

Should you have any inquiries about the AGCSA and its activities, please contact the AGCSA office on (03) 9548 8600 or email the following members of staff who will be more than willing to assist you:

- **Conference/events:** Simone Staples  
Email: [simone@agcsa.com.au](mailto:simone@agcsa.com.au)
- **AGCSATech:** Bruce Macphee  
Email: [bruce@agcsa.com.au](mailto:bruce@agcsa.com.au)
- **ATM Journal/website:** Brett Robinson  
Email: [brett@agcsa.com.au](mailto:brett@agcsa.com.au)
- **Membership/jobs:** Allison Jenkins  
Email: [admin@agcsa.com.au](mailto:admin@agcsa.com.au)
- **Accounts:** Philip Horsburgh  
Email: [philip@agcsa.com.au](mailto:philip@agcsa.com.au)



Australian Golf Course Superintendents' Association

## PREMIUM PARTNERS

The AGCSA is indebted to the support of the following premium partner companies



PLATINUM



GOLD



SILVER



JOHN DEERE



The AGCSA encourages all members to support these companies who support your association



Pelican Waters Golf Club on the Sunshine Coast ranks inside the top 60 courses in Australia. Pictured is the 18th which is rated as one of the toughest closing holes in Queensland

## Flying high

The Greg Norman-designed Pelican Waters Golf Club will play host to the 2017 Toro AGCSA Golf Championships. ATM editor Brett Robinson catches up with course superintendent Troy Muir to talk turf, the tournament and his unique hobby.



The Toro AGCSA Golf Championships is always a hotly contested event and over the years it has been fought out on some of Australia's great golf courses. 2017 will be no exception as the top 60 ranked Pelican Waters Golf Club gets set to host the AGCSA's premier golf competition for the first time. It is the second Greg Norman and Bob Harrison designed course to hold the event after visiting The Glades Golf Club in 2010.

Open for play in late 2000 and officially opened by the Great White Shark himself in February 2001, Pelican Waters was the company's first design on the Sunshine Coast and in the years since has garnered a reputation for being a very challenging and unique layout. Indeed, as golf architecture aficionado Darius Oliver penned on his Planet Golf website, Pelican Waters rates as one of Queensland's foremost modern constructions.

"Though several kilometres inland from the famous coastline, the golf course retains a sense of the region's beauty with its diverse landscapes

and crafted wetlands cleverly incorporated into the design. Holes initially weave around open areas of low-lying scrub and later through tall stands of native bush with the ever-present lake system a constant companion.

"Although the design team has had better land to work with, this largely unheralded course deserves to be duly recognised as one of the state's top modern tracks. The contrasting native bush and heath landscapes are complemented by the rugged nature of design, which gives the course a rough edge foreign throughout Queensland.

"Far from your typical resort course, Pelican Waters is an original and one that would work just as well without the expectation of immaculate playing surfaces and the convenience of carts and red carpet resort service. Not that the perfect lush lies and lavish amenities are a problem, but the real pleasure at Pelican Waters is in combating the natural features of the site and mastering its constant unpredictability."







ALL COURSE PHOTOS BY GARY LISBON – WWW.GOLFPHOTOS.COM.AU

Pelican Waters boasts Tifdwarf hybrid couchgrass greens with all but two built to USGA specifications (the 16th and 17th greens are California style constructions – no gravel layer). Tees are Santa Ana couchgrass, fairways Riley's Super Sport couchgrass, while the roughs are a mix of grasses. The roughs were originally a mix of centipede and buffalo grasses, with narrow-leaf carpet grass now also prevalent.

As the name suggests, there is plenty of water at Pelican Waters with approximately 6.5 kilometres of lakefront around the course. The extensive freshwater wetland system, which is the club's irrigation source, is fed by a large catchment that includes the surrounding residential area all the way out to the Bruce Highway.

## DIFFERENT CROP

Hosting his colleagues for this year's tournament is Pelican Waters superintendent Troy Muir whose journey into turf management was by no means conventional. Growing up over the back fence to a small crops farm in the middle of Brisbane, Muir worked part-time on the farm while going to school before taking on a full-time role. He would spend 17 years working there, growing and harvesting crops such as lettuce, shallots, silver beet and radishes, and rose to be foreman for 12 of those years.

At the start of 2001 Muir relocated to the Sunshine Coast and after the novelty of driving back to Brisbane daily to work on the farm quickly wore off, he took on a job at Pelican Waters Golf Club. The course, which at the time was just about to open, had been on Muir's radar for two years during the construction phase, but it wasn't until he moved up to the area that working there became a reality.

It was somewhat ironic that Muir found himself working on a golf course. Back when he left school after Year 12, a family friend who was then the head greenkeeper at Gaythorne Bowling Club in Brisbane, offered Muir a turf management apprenticeship. Muir at the time told him he had no desire to be a greenkeeper and knocked the offer back, instead choosing to make a career out of working on the farm. Muir still has a laugh about it now and a few years ago even bumped into that family friend at a turf industry day and shared a few jokes about his initial snub.

Muir quickly warmed to the all-encompassing nature of golf course work. It ticked all the boxes – he was working outdoors as he had always done and, like his time on the farm, he was growing a crop, albeit a slightly different one. As a result, Muir decided to take on a mature age apprenticeship and upon completion was promoted to assistant superintendent under then superintendent Ben Marshall. Muir would work under Marshall until his

**Opposite page, bottom: While Pelican Waters boasts many challenging holes, pundits rate its collection of short par fours a real highlight. Pictured is the 13th**

**Below: The Pelican Waters maintenance crew headed by course superintendent Troy Muir (fourth from left)**





Shortly after Muir started in 2011, the club completed a two-year bunker renovation programme which saw 20 bunkers removed, seven partially filled in and 39 fully refurbished. Pictured is the dramatic bunkering on the par three 14th



departure in 2007 and then a further three-and-a-half years under David Wells before taking over as superintendent in 2011.

"I found it (golf course work) a lot easier than ag work," laughs Muir, when asked how he adapted to life on the golf course. "When I started here the guys said it was hard work, but after a few weeks I thought, 'Gee, you guys should go work on a farm!' Even though it was hard work I do still miss working on the farm every now and then, but I've enjoyed my time at Pelican Waters just as much."

### COURSE CHANGES

Having spent all his turf management career at Pelican Waters, Muir has witnessed plenty of change both on and off the course. In addition to a few name changes along the way – it was originally called Pelican Waters Golf Club before changing to Club Pelican and then back to Pelican Waters Golf Club again – there has been a major bunker renovation project undertaken, a new nutrition regime implemented on the greens, as well as significant clearing of vegetation to improve lines of play and, most importantly, to let in some much needed light and air movement to parts of the course.

The biggest change Muir has seen, however, has been to the crew. From a peak of 22 staff when he first started working at the club, that number

had dropped by half when Muir took charge and for the past four years he has had to manage the course with a crew of nine. That means Muir and his assistant Rob Bloom have had to really fine-tune their course management operations over the years to increase efficiencies while at the same time present quality playing surfaces for the 40,000 rounds per year that come through.

"There have certainly been some changes here over the years," reflects Muir. "The lower staff levels make things more challenging. The course is very open and as an example we have 27 hectares of fairways and greens surrounds to maintain, so we have got a lot of area to cover on a relatively low budget. I know I'm better placed than other courses when it comes to budgets, but it still makes it quite difficult as you expect more out of you workers and yourself to try and do things more efficiently."

"Over time we have had to be more efficient with the resources we have and make a few compromises. We went from walk-mowing the greens, greens surrounds and tees and tees surrounds to using triplexes. On the fairways we have cut back using granular fertilisers and now only use foliar. We have just recently purchased a second-hand Enviromist sprayer which will help with weed control."

"We also rely a lot more on volunteers to help with some of the smaller jobs on course. We have

As the name alludes to, the Pelican Waters layout features plenty of the wet stuff. Pictured is the par three 6th signature hole





the Pelican Waters Vets, a great group of around 100 members who come in and divot fairways, Round-up wire grass, pick up branches and so on. They are a huge help and we certainly rely on them a lot more now."

One of the first major projects Muir oversaw when he took over as superintendent was finishing off a major bunker renovation project. Over a two year period the club, with guidance from Greg Norman Golf Course Design, assessed all bunkers on course with the decision made to fill in 20 to assist in reducing man hours spent on their maintenance.

The majority of those removed were greenside bunkers or those which carried little strategic value, with the overall number reduced from 86 to 66 and a further seven partially filled in. A total of 39 bunkers also underwent a full renovation to address silt contamination and drainage issues that had arisen after a couple of seasons of heavy rain and course flooding.

Muir has also spent a lot of time and effort improving the health and playability of his Tifdwarf greens. During the early part of his tenure as superintendent the greens were often a source of headache, with ERI an ever-present menace. A few simple soil tests were enough to pinpoint some deficiencies and over the past couple of years Muir has been concentrating on increasing the calcium and magnesium levels which has led to a marked reduction in disease pressure. In tandem with



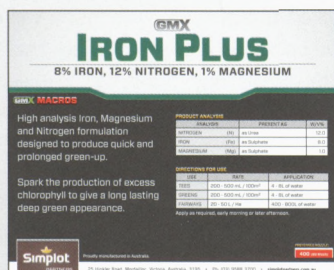
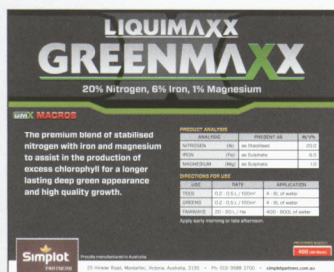
the new nutrition regime, Muir and his staff have also spent a significant amount of time clearing vegetation around the course which has helped to let in more light and air which has also helped to improve the quality of the greens.

"The Tifdwarf provides a good surface," says Muir. "We had a few issues early on with ERI but once we raised the calcium and magnesium levels they have been very healthy and if we do get a flare up they recover a lot better than they used to. The levels had been low for a while and we initially spent a lot of money to rectify that. It has certainly paid dividends in the long run and the greens are much easier to manage now.

"Even though we have had to cut back on a few things around the course, the greens are still our number one priority and we make sure we

**Pelican Waters boasts Tifdwarf hybrid couchgrass greens and Riley's Super Sport couchgrass fairways. Pictured is the 8th**

# 'TIS THE SEASON.



The management of your turf during the winter months is vital to ensure a strong and healthy summer.

Taking it down into dormancy and providing a rich and stable platform for emergence can give you a head start on your growth and reduce the risk of disease pressures later in the year.

Industry leader **LiquiMaxx GreenMaxx** and the powerful **GMX Iron Plus** from **Simplot Partners** gives you the flexibility to control the colder months while still providing the colour and vigor needed.

[simplotpartners.com.au](http://simplotpartners.com.au)





keep up with our monthly grooming, dusting and needle-tining (6mm). We renovate twice a year and over the last couple of years we have been doing that in the first week of November and first week in February. Admittedly they're pretty close together, but they coincide with the quieter times in our golfing schedule. We do a full renovation on both occasions – core to 150mm, double scarify at -5 and backfill the cores using a river sand which has humate and gypsum incorporated into it.”



Troy Muir with one of his prized showpen homer pigeons

## BIRDS OF A FEATHER...

Ask any golf course superintendent and they'll tell you that getting away from the job and immersing yourself in something other than turf is essential to keeping sane at times.

As has been carried in these pages before, some, like Barnbough's Phil Hill, like to put their bodies through torture by going on epic cross country runs or embarking on six-day hikes across Tasmania's balmy alpine region (and forgetting to take a toilet roll!). On page 80 of this edition, Medway Golf Club course superintendent and VGCSA life member Col Winterton writes about his passion for beekeeping and how for nearly four decades he has been besotted by one of nature's most intriguing and industrious creatures.

For Troy Muir, superintendent at Pelican Waters Golf Club on the Sunshine Coast, it's another winged creature that provides him with some much-needed stress relief. For 42 of his 46 years, Muir has owned, bred and showed pigeons. He was just four-years-old when his dad introduced him to the hobby and it has since grown into a passion which has seen him (and his prized pigeons) win local shows as well as travel the length and breadth of the country.

Muir currently has around 50 'showpen homer' pigeons, a US breed

which is slightly larger than your common garden variety pigeon, and at his peak a few years ago had more than 100. Muir admits he is only a small-time enthusiast with some of his fellow fanciers having up to 400 birds! Muir also keeps racing pigeons which he uses as foster parents.

Muir takes his birds to various shows around the state and country each year and has driven as far afield as Melbourne and Cairns to contest events. Show season runs from April through to August before breeding season starts around August and goes through until January. Between January and April the pigeons go through a moult at which time new feathers are grown and the birds are meticulously groomed in readiness for the new show season.

"They are a great stress relief," says Muir, who has been the long-time secretary of the Showpen Homer Club in Queensland. "Getting them ready for the show season is quite involved and a lot goes into making sure they are looking at their best. My wife and I have just bought a new house so for a few weeks I have had the pigeon lofts housed at the maintenance facility compound. I'm hoping to take them to our new home in the next few weeks, but I may keep a few down here for when the tournament is on!"

## UP FOR THE CHALLENGE

Pelican Waters' undulating greens should prove to be a fitting challenge when the Toro Red Jacket goes up for grabs from 12 noon on Sunday 25 June. Moruya Golf Club superintendent Brent Hull, who triumphed in the fading light at Barwon Heads Golf Club to claim the 2016 title, will return to defend his title and aims to join a select few to have won the tournament a third time. He will face some stiff competition, however, from a number of perennial contenders including two-time runner-up Brett Woodward (Armidale GC), 2015 champion Chris Burgess (Yarrowonga Mulwala Golf Resort) and AGCSA president Brett Balloch (Anglesea GC).

They will be faced with a tricky layout that contains what many consider to be some of the best modern short par four holes in Australian golf. As Darius Oliver further writes in his Plant Golf review of Pelican Waters...

"Despite being well endowed with a number of challenging long holes, Pelican Waters' greatest strength is its short par fours. The 2nd is a superb example of strategic design with water running across the tee and up the right side of the hole tempting the bold player to take a risk.

"The other standout is the deceptive 12th which Bob Harrison rates as one of the best short fours the team has ever built. Here there is ample width off the tee yet parts of the sharply contoured green are hidden beyond a knoll if approached from the wrong side. The back pins are especially difficult to get near unless the drive can hug the left-side fairway traps. Like the 2nd, the brave drive here is rewarded with an ideal angle of approach and a genuine chance at birdie. Visually this hole is particularly pleasing considering the land was initially quite flat.

"The finish to the round is extremely strong with the final four holes played back through dense bushland. The par five 16th bends and meanders through chutes of tall gums, the 17th is another difficult dogleg, while those who reach the 18th and relax are suitably punished by one of the toughest closing holes in Queensland."

More than 80 have registered for the tournament and Muir, together with his crew, is excited about hosting the event. "We are really looking forward to it," says Muir. "I'll have the course all trimmed up and tidy and the greens running nicely. We've got a bit of excess weed around the place which I would have liked to have removed, but it will certainly be in good condition and a challenge. There's plenty of water the whole way round, so make sure you bring plenty of balls!"



Pelican Waters' par three 4th





GET THE MOST OUT OF YOUR TURF THIS SEASON



# Double Time®

Herbicide



Double Time Herbicide is a broadleaf herbicide containing 340g/L MCPA and 80g/L Dicamba.

It is registered for the control of a very broad range of dicot weeds in turf and several herbaceous weeds in general non-crop situations.



# Triple Time®

Herbicide



Triple Time Herbicide is a broadleaf herbicide containing 280g/L MCPA, 140g/L Bromoxynil and 40g/L Dicamba.

It is registered for the control of a very broad range of dicot weeds in a range of recreational turf situations. Multiple modes of action make Triple Time extremely broad spectrum in its control of registered weeds.

CALL 1800 631 008 FOR MORE INFORMATION





The 2017 AGCSA Future Turf Managers' Initiative will see 20 aspiring Australian and New Zealand superintendents converge on the Sunshine Coast as part of the 33rd Australian Turfgrass Conference

## FTMI Class of 2017

In just its second year,  
the AGCSA Future Turf  
Managers' Initiative,  
presented in conjunction  
with Gold Partner  
Jacobsen, has had an  
unprecedented response.  
ATM profiles this year's  
successful candidates  
who will converge on Twin  
Waters in late June.

**JACOBSEN**  
A Textron Company

**T**he success of any mentoring programme can be measured by how its participants have gone on to further themselves by taking the skills learnt and applying them in the real world. If last year's AGCSA Future Turf Managers' Initiative (FTMI) is any indication, its remit to help foster emerging course superintendents and boost their career prospects has more than been realised.

At the 2016 Australian Turfgrass Conference, 13 candidates ranging from foremen, assistant superintendents and one regional superintendent, gathered in Melbourne for the AGCSA's inaugural FTMI, presented in conjunction with Gold Partner Jacobsen. Over the course of two days the candidates were immersed in a range of conference sessions, forums and networking opportunities with a strong focus on management, budgeting, communications skills and interview techniques to assist them as they progress through their careers and up the course management chain.

In the months following last year's FTMI, three candidates did indeed take the next step. Kirsty Herring was appointed superintendent at Katherine Golf Club in the Northern Territory after being assistant at Kalgoorlie Golf Club for a period. Rowan Daymond moved from his role as assistant superintendent at The Grange Golf Club in Adelaide to take on his first superintendent role at Murray Downs Golf and Country Club, while most recently Nick Marino left Club Mandalay to assume the role of superintendent at the nine-hole Royal Park Golf Club in the heart of Melbourne.

Jacobsen has run the FTMI programme in four different countries and the success of past attendees, like the trio just mentioned, has meant that the initiative has quickly taken off around the world. However, the AGCSA and Jacobsen didn't quite expect the number of applications to come flooding in when it was announced the FTMI was returning for a second year as part of the 33rd

Australian Turfgrass Conference. Over 30 applied this year and such was the calibre of applications that the AGCSA and Jacobsen agreed to increase the number of successful applicants to 15.

"The inaugural FTMI was a huge success, and we are confident that this year will be a continuation of the positive energy and experiences that last year's delegates enjoyed," says Karen Proctor, Jacobsen's international marketing and communications manager.

"The standard of this year's applications was exceptionally high and short-listing just 20 delegates was very difficult. I was particularly impressed with the enthusiasm that shone through from everyone that applied. There is clearly an incredible amount of talent Down Under and I look forward to working with the successful candidates.

"I would encourage those that just missed out to re-apply next year and continue to gain as much experience as possible in the interim. The application process was particularly competitive this year, but we thank everyone who took the time to apply and we look forward to welcoming more FTMI delegates to our ever growing family."

This year's FTMI features a veritable United Nations flavour and in addition to the 15 Australian candidates, one of whom hails originally from the US and a couple who are from the UK, the AGCSA FTMI welcomes five New Zealand Golf Course Superintendents Association candidates who will make the journey from across the Tasman.

This year's group will again be joined by superintendent mentors who will help to guide them through the sessions and impart some wisdom from their years at the coalface. This year's mentors are John Spraggs (Royal Wellington GC, NZ), Travis Scott (Riversdale GC, Vic), Leon Hennessy (Cromer GC, NSW) and Ben Tilley (Headland GC, Qld). The AGCSA and Jacobsen congratulate the following members of the FTMI Class of 2017...





## DANNY ADAMS

**Assistant superintendent  
Riversdale GC, Vic**

Riversdale Golf Club in Melbourne is far removed from where Danny Adams embarked on his career back in 2003. Originally from England, Adams completed his apprenticeship at Garforth Golf Club in Leeds before moving to Lofthouse Golf Club where assisted with the installation of a full course irrigation system. After a year at Lofthouse, Adams was offered a position at The Leeds Golf Club (Cobble Hall) which is home of the 'Leeds Cup', the oldest active professional tournament in golf. He spent four enjoyable years at Cobble Hall with the highlight being the annual PGA event.

In 2009 Adams left the UK and embarked on a backpacking adventure before finally settling in New Zealand. There he landed a job as part of the construction crew for TIC Projects and was fortunate enough to work at many of the stadiums in the lead-up to the country hosting the 2011 Rugby World Cup. With just \$200 to his name, Adams then headed across the Tasman in late 2010 where he had arranged a seasonal position at Riversdale Golf Club in Melbourne. Such was his expertise that within three months Adams was promoted to foreman and 18 months later found himself as assistant superintendent, a position he continues to hold today.

It has been an eventful time at Riversdale recently with the club undertaking some major improvement works including the development of a new practice facility and installation of a new irrigation system. Adams was also interim superintendent for a period following former superintendent Dave Mason's departure to Metropolitan and the arrival of new superintendent Travis Scott. During that time Adams project managed both of those projects which he rates as one of his career highlights.



## ROB ARESTIA

**Assistant superintendent  
Spring Valley GC, Vic**

An apprenticeship through Bass Coast Shire Council working on sportsfields was Rob Arestia's initial foray into turf management. However, with a strong interest in golf it wasn't long before he found his way on course with a position at Chalambar Golf Club in Ararat, Victoria. After two years there and with a desire to undertake further study and obtain a Diploma in Turf Management,

Arestia headed for Melbourne in 2011 and gained employment at Spring Valley Golf Club. In 2014 Arestia joined the crew at Yarra Yarra Golf Club and was promoted to foreman the following year. He then returned to Spring Valley in 2016 as assistant superintendent under David Phillips.

Along the way Arestia has always sought to continually improve his skills and has volunteered at numerous major tournaments including the Australian Masters (Victoria Golf Club, 2011), the Victorian Open (Spring Valley Golf Club, 2012) and the Australian Amateur Championships (Woodlands Golf Club, 2012). More recently he joined Australian superintendents Michael Pearce and Peter Fraser to volunteer at the 2016 Scottish Open at Castle Stuart.



## JASON BERKHOUT

**Assistant superintendent  
Thurgoona Country Club Resort, NSW**

Located in Albury, Thurgoona Country Club Resort has been Jason Berkhout's home for the past 19 years. His career began there as an apprentice in 1996 and after the course was taken over by Liverpool Catholic Club in 2000 he was awarded the position of superintendent. Unfortunately the step up at such an early stage in his career didn't work out and after a year he decided to step aside.

The next few years proved difficult for Berkhout who admits he got stuck in a bit of a rut, however, with the appointment of new course superintendent Dean Lewis about three years ago things have started to turn around. Lewis' professionalism, knowledge and passion gave Berkhout the boost of confidence he needed to enrol in and complete the Diploma of Sports Turf Management.

**Headland Golf Club superintendent and GCSAQ president Ben Tilley returns for a second year as one of four programme mentors**



- ▶ Independent Contract Research
- ▶ Analytical Services
- ▶ Turf, Horticulture & Broadacre

- ▶ Diagnostic Services - plant pathology and nematode extraction
- ▶ Independent Research Station, Orange NSW

- www.westgateresearch.com.au
- westgateresearch
- 0406 438 320





**Jacob BurrIDGE (right) spent three weeks volunteering at Kingston Heath Golf Club for last November's 2016 ISPS Handa World Cup of Golf**

Later this year, Thurgooda Country Club Resort will hold the NSW Men's Senior Open Championship, the largest event that the club has hosted. Berkhout says that being chosen for the 2017 FTMI will greatly improve his knowledge, skills and confidence as a manager to work in closely with Lewis to ensure the golf course is presented at the highest possible level.



### THOMAS BICKERDIKE

**Assistant superintendent  
Commonwealth GC, Vic**

Another 2017 FTMI candidate to originally hail from the UK, Thomas Bickerdike's interest in turf management started through a love of golf. As a youngster he would spend his summers at the local golf course and always took a keen interest in the skills and techniques used by the greenkeeping staff to present the course. This led to a vocational Diploma where he split his time between studies and placement on a golf course.

Nineteen years on and Bickerdike now has a highly varied career in golf course management under the belt. He has sought out every opportunity to enhance his professional credentials, having worked in three different countries and on varying course types. He has assisted in course preparations at five major tournaments (a European Tour event, two Women's Australian Opens, Australian Amateur, Australian Masters and Presidents Cup).

Since 2008 Bickerdike has been an integral part of the crew at Melbourne's famed Commonwealth Golf Club under superintendent Mark Prosser. In October 2012 the position of assistant course manager became vacant with the club deciding to restructure and employ three assistant course managers with no other management positions (e.g.: 3IC etc). The club didn't hesitate to appoint Bickerdike as one of the assistants.



### JACOB BURRIDGE

**Assistant superintendent  
Peninsula Kingswood CGC, Vic**

South Australia is well represented among the FTMI Class of 2017 and heading the list is Jacob BurrIDGE who at just 23 years of age has quickly risen through the ranks. BurrIDGE is currently assistant superintendent on the North Course at Peninsula Kingswood Country Golf Club in Melbourne and studying a Diploma in Sports Turf Management through The Gordon Institute.

Born and raised in Adelaide, from an early age sport was a big part of BurrIDGE's life, golf and cricket in particular. After attending St Michael's College, he took on an apprenticeship at Kooyonga Golf Club under superintendent Steven Newell. Eventually elevated to foreman, in 2015 BurrIDGE was bestowed the SAGCSA's Graduate of the Year Award and represented the association in the final of the AGCSA Graduate of the Year Award.

## NZGCSA FTMI CANDIDATES



### GEORGE FLYNN

**Assistant superintendent  
Pukekohe GC, Auckland**

The first of the NZGCSA FTMI candidates, Flynn is currently the assistant course manager at Pukekohe Golf Club south of Auckland. His career started at the prestigious Royal Auckland Golf Club in 2012 where he completed his apprenticeship under expert superintendent and mentor Mark Hooker. Shortly after completing his apprenticeship Flynn moved to Pukekohe as assistant which was a big step up for someone of his age and experience. Throwing himself in the deep end has helped Flynn to develop his managerial skills and become a well-rounded leader. In 2016 Flynn was chosen to sit the New Zealand Sports Turf Industry Award exam, which he passed with merit.

In addition to his responsibilities at Pukekohe and being a father to two-year-old twin sons, Flynn is currently in the midst of completing his Level 5 Certificate in Sports Turf Management. He is also a member of the Auckland Golf Course Superintendents Association committee as a trainee coordinator.



### LANCE MORRIN

**Assistant superintendent  
Pakuranga CC, Auckland**

Golf is in the blood for Lance Morrin who is currently assistant superintendent at Pakuranga Country Club in Auckland's eastern suburbs. Morrin's father and grandfather were stalwarts of The Grange Golf Club in Auckland and living nearby to the course Morrin would, as a kid, sit on the fence and watch the greenkeeping staff going about their work. That progressed into securing a job during the school holidays under The Grange's head greenkeeper Garth Williams which developed into a full apprenticeship.

Working under the tutelage of one of New Zealand's pre-eminent superintendents, Morrin could not have asked for a better grounding and was heavily involved in numerous projects including greens reconstruction and preparing for major tournaments. After finishing his apprenticeship, Morrin took on a role preparing cricket blocks and rugby grounds for a period, before venturing back to golf in the 2IC role at Pukekohe Golf Club south of Auckland. After a short stint there he then

headed to Pakuranga to continue his career under another of New Zealand's leading superintendents, former NZGCSA president and life member Peter Boyd.



### CONNOR SCOTT

**Foreman  
Titirangi GC, Auckland**

Fresh from leaving high school, Connor Scott began greenkeeping in 2012 at Whangaparaoa Golf Club, a small 18-hole course set at the end of a peninsula just north of Auckland. Despite initially drawn to the turf industry through his love of cricket and the outdoors, he soon became immersed in golf, started playing and quickly realised the diversity of work that comes with working on a golf course as opposed to preparing cricket wickets and sportsfields.

After finishing his apprenticeship in 2015, Scott headed to Queenstown to do a brief stint at The Hills Golf Club for eight months. After the 2016 New Zealand Open he returned to Auckland where he took a position at the Alistair MacKenzie-designed Titirangi Golf Club where he has been working as foreman ever since. Scott is currently undertaking his Level 5 turf management qualification.



Although not winning the national award, the experience and contacts made at that year's Australian Turfgrass Conference in the Hunter Valley, coupled with a strong desire to work on the Melbourne sandbelt, saw Burridge land a job as foreman on the South Course at Peninsula Kingswood. There he played an instrumental role in growing in the fully redeveloped course with his skill, commitment and passion ultimately rewarded when he was elevated to assistant superintendent on the North Course.

"I am a key believer in constant improvement and growth, both personally and within the organisation," says Burridge, who spent three weeks on the crew at Kingston Heath Golf Club for last year's 2016 ISPS Handa World Cup of Golf. "I am extremely appreciative to be in a leadership position at my age and understand that change and innovation are crucial components to meet the demands and needs of the industry."



## BRENTON CLARKE

**Foreman  
Box Hill GC, Vic**

Another candidate originally from South Australia, Brenton Clarke successfully accomplished his apprenticeship at the undulating Blackwood Golf Club in the Adelaide hills. After gaining his Certificate III in Sports Turf Management, Clarke ventured into landscape gardening and design before working for the family business where he developed his leadership, staff management and mentoring skills.

With a real passion for sports turf management, Clarke decided to venture across the border to Victoria where he secured the foreman's position at Box Hill Golf Club in Melbourne. Since arriving, Clarke has been immersed in a range of course improvement projects, among them three new greens in the space of the past 14 months. Living over the fence from the course, Clarke takes every opportunity to take on extra work and provide assistance over the summer period.

Like his fellow FTMI candidate Burridge, Clarke was fortunate to be given the opportunity to volunteer at Kingston Heath for the 2016 ISPS Handa World



**Assistant superintendent Tom Bickerdike has worked on golf courses in three different countries but in recent years has become a senior member of the Commonwealth Golf Club crew**

Cup of Golf. Clarke is currently in the final year of his Diploma in Turf Management and according to Box Hill superintendent Josh Lewis will have a long and successful career in the industry given his exemplary work ethic and problem-solving abilities.

"I have worked closely with Brenton for the past two years and have never seen an employee more company-focused and loyal in my 14 years of being a golf course superintendent," says Lewis. "I have witnessed tremendous growth in his career over the course of his employment and he has remarkable leadership talents and a natural forward thinking which makes him uniquely qualified."



## BRITTNEY GOLDSWORTHY

**Superintendent  
Sea View GC, WA**

Born and raised in the USA, Brittney Goldsworthy entered the golf industry at a young age with a plan to become a PGA teaching professional. But after falling in love with the turf industry her focus quickly changed.

As is done in the US, Goldsworthy graduated with a Bachelor of Science in Agronomy at Purdue University, Indiana in 2010 before venturing out to Australia where she completed her practical and technical grounding. She landed a role at Lake Karrinyup Country Club in Perth where she would rise to be spray technician. During her time there she helped prepare the course for a number of

**JACOBSEN**  
A Textron Company

# fertech

- Australian Made
- Market Leading Technologies
- Exceptional Plant Safety
- Proven Results



[www.globegrowingsolutions.com.au](http://www.globegrowingsolutions.com.au)

**globe**  
GROWING SOLUTIONS





2016 FTMI candidates (from left) Rowan Daymond, Stewart MacFarlane and Justin Crowe enjoy one of the conference sessions in Melbourne

**JACOBSEN**  
A Textron Company

Byron Bay's Garry Kunz won the GCSAQ Assistant's Recognition Award at the Queensland Golf Industry Awards earlier this year



Perth Internationals and also travelled to Melbourne in 2013 to volunteer at Royal Melbourne for the Australian Masters and World Cup of Golf.

In recent years Goldsworthy has taken the reins as course superintendent at the nine-hole Sea View Golf Club, Western Australia's third oldest golf course located in Perth's beachside suburb of Cottesloe. There Goldsworthy manages a small crew and according to club president Bill Cox does an exemplary job of presenting the course.

"Brittney is very highly regarded by the Board and the members at Sea View and our golf course is currently in absolutely superb condition," says Cox. "Brittney is a very hard worker and leads her crew by example. There isn't a job on the golf course that Brittney will not do, which instils a sense of respect and appreciation within her fellow workers."



### TIM HOSKINSON

Assistant superintendent  
Paradise Palms CC, Qld

Sydney's Manly Golf Club was the proving ground for Tim Hoskinson early in his career and he wasted little time. By the fourth year of his apprenticeship he had already been promoted to 3IC where he oversaw the daily work programme for up to 16 people. Following this, Hoskinson's enthusiasm led him to the USA and placements through The Ohio Program.

Working long hours and taking his knowledge to the next level, a summer at Robert Trent Jones Golf Club in Gainesville, Virginia gave Hoskinson the experience of how to provide exceptional playing surfaces in harsh conditions. Keen to excel both on the course and in the classroom, Hoskinson also spent three months undertaking full-time studies at Ohio State University. He then spent seven months and changed holes for Tiger Woods' inaugural tournament at Congressional Country Club.

Taking an extended break to travel with his wife in 2012, Hoskinson returned to Australia in 2015 where he rose to be a foreman at Royal Sydney Golf Club before taking on his current role as assistant superintendent at Paradise Palms Country Club in Cairns under superintendent Malcolm Ollard.

"In the 18 months Tim has been at Paradise Palms he has been a valuable asset to the club," sums up Ollard. "He has developed a comprehensive fertiliser and chemicals programme, assisted me in repairing a non-functioning irrigation computer when he arrived and been involved with and leading construction projects."



### GARRY KUNZ

Assistant superintendent  
Byron Bay GC, NSW

June 2017 is set to be a busy month for Garry Kunz. In addition to being selected for the 2017 FTMI and travelling to the Sunshine Coast, Kunz is also heading to Melbourne for two weeks as part of his prize for winning the GCSAQ's Assistant Superintendent Recognition Award earlier this year. Kunz will spend time at Peninsula Kingswood Country Golf Club where joint award sponsor Ogilvy Clayton Cocking Mead is undertaking a major course redevelopment.

Growing up in the Snowy Mountains, Kunz started his apprenticeship in 2002 for a local subcontractor before taking on a position at the Royal Military College Golf Club, ACT. Finishing his apprenticeship in 2005, Kunz then packed his bags and headed to Florida on The Ohio Program where he was placed at Tiburon Golf Club for 18 months. During his time there he held the positions of spray tech and irrigation tech and assisted in course preparations for the 2005 Shark Shootout.

In 2007 Kunz joined the crew at Byron Bay Golf Club and in August 2009 was promoted to assistant under superintendent Shaun Cross. In the 10 years he has been at the club Kunz has been involved in a plethora of major course works which have helped to really put this regional gem on the map. Kunz has played a key role in irrigation upgrades, drainage projects, greens surround reconstruction, bunkers, fairways and tees as well as fairway resurfacing. The club has also hosted for the past 10 years the three-day PGA Legends event every December.



### NICK LAUNER

Assistant superintendent  
Metropolitan GC, Vic

Iconic Melbourne sandbelt golf club Metropolitan has been a breeding ground for some of the Australian turf industry's most accomplished superintendents over the past 15-20 years and Nick Launer will be hoping to add his name to that illustrious list in years to come.

Launer began his apprenticeship at Metropolitan in 2005 under one of the best in superintendent Richard Forsyth. He was exposed to all facets of the trade and was also involved in some major construction work. Completing his apprenticeship in line with the 2009 Women's Australian Open, Launer was then fortunate to work at Royal Melbourne and was involved in the club's irrigation upgrade and East Course restoration works.



Launer's next move was to Swan Hill, Victoria where he took on the role of assistant superintendent at Murray Downs Golf and Country Club, a course that his mentor Forsyth had built and maintained earlier in his career. After five years there he eventually came back to where his career had begun after being appointed as assistant superintendent at Metropolitan under Dave Mason.



## LUKE NOWLAN

**Superintendent  
Ipswich GC, Qld**

Ipswich Golf Club has had its battles over the years, but the arrival of new superintendent Luke Nowlan in the spring of 2015 has seen things start to take a turn for the better. Ipswich has experienced two major floods in the past six years which laid waste to the course, while off course it has also experienced its share of financial dramas. Adding to the challenges, the course was redeveloped with seashore paspalum planted wall to wall. Arriving after more than a decade at Brisbane's Indooroopilly Golf Club, Nowlan was tasked with not only making improvements to the course, but more importantly to become an expert in managing the seashore paspalum playing surfaces.

They are certainly a world removed from the bentgrass greens that Nowlan grew up working on as an apprentice 20 years prior at Taree Golf Club,

NSW. After completing his apprenticeship there he headed to the Sunshine State and a role at Pacific Golf Club before shifting into the trade to work at a Brisbane-based Kubota dealership.

Nowlan returned to golf at Indooroopilly as a senior greenkeeper/spray technician for 11 years under superintendent Charlie Giffard where he learnt a huge amount about turf and staff management. It was then over to Ipswich where he was quickly appointed superintendent and now leads a small crew striving to reinvigorate the course.

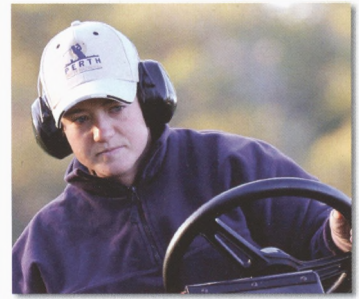


## RYAN PANTIC

**Foreman  
RACV Royal Pines, Qld**

Twenty-seven-year-old Ryan Pantic has just notched up 10 years in the turf industry and has developed into a highly respected foreman at RACV Royal Pines which has been home to the Australian PGA Championship for the past four years.

Pantic, a top notch footballer who was a two-time best and fairest winner for NEAFL side Broadbeach Cats in recent seasons, completed his apprenticeship at Redlands Cricket and Sporting club in 2010. From there he had stints at Emerald Lakes (Gold Coast) and Yarra Bend (Melbourne) before arriving at the 27-hole RACV Royal Pines where he has become part of the senior management team under superintendent Lincoln Coombes.



**Originally from the US, Brittney Goldsworthy is now superintendent of Sea View Golf Club in Perth**

**Cromer Golf Club superintendent Leon Hennessy joins the FTMI as a mentor in 2017**



## STAY WARM & DRY THIS WINTER

david golf

### 100% WATERPROOF TURFWEAR

#### > Turfwear Jacket

CODE: SCW-TWJ-N (Navy)



#### > Turfwear Bib & Brace

CODE: SCW-TWBB-N (Navy)



#### > Turfwear Pant

CODE: SCW-TWP-N (Navy)



#### > FRONTIER CONTEGO ALL WEATHER GLOVES

CODE: SHP-FCONTEGO



#### > Otway Range Boot

CODE: SFW-OM0017

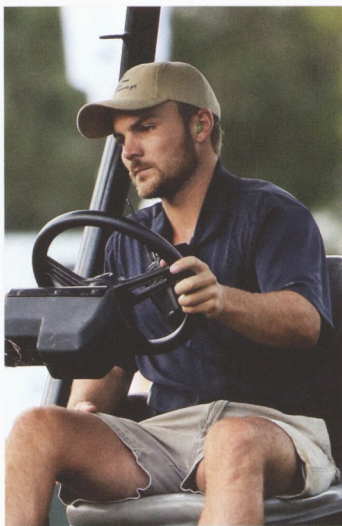
Sizes: 7-13

Visit our website or contact your David Golf Rep for more info

1300 790 890

www.davidgolf.com.au





As foreman at RACV Royal Pines, Ryan Pantic plays a key role in course preparations for the annual Australian PGA Championship

**JACOBSEN**  
A Textron Company

Pantic rates his involvement in preparing the course for the annual PGA Championship as a major career highlight, which has given him the opportunity to expand his knowledge of course and tournament preparation at the highest level. In the last 12 months Pantic has taken on the responsibility of becoming the crew's WH&S representative and also recently started his Diploma in Turf Management by correspondence through Melbourne Polytechnic under Phil Ford.



## MATTHEW POLLOCK

Foreman

The Dunes Golf Links, Vic

It's not often you get the opportunity to work on the construction and maintenance of a world top 25 course early in your career, but that opportunity has befallen Mathew Pollock during his time working at The Dunes on Victoria's Mornington Peninsula. Pollock spent time at the new Cape Wickham Golf Links on King Island assisting with construction and maintenance, an unbelievable learning experience that will be hard to top after just eight years in the industry.

The Dunes has been home to Pollock since his apprenticeship which he completed through Chisholm TAFE. Throughout his studies Pollock shone and in 2012 was awarded top apprentice. As well as his time at The Dunes, where he has played a part in greens reconstruction works, and his time at Cape Wickham, in 2013 Pollock also volunteered at Royal Melbourne for the World Cup of Golf.

"Matthew has an outstanding grasp on what it takes to manage a golf course," says The Dunes superintendent Simon Muller. "Matthew's skill set includes his ability to quickly assess situations and be proactive in decision-making. He likes to think 'outside the box' and question, in a good way, if things can be done differently."



## MATHEW SOLES

Assistant superintendent  
Roseville GC, NSW

Mathew Soles has just notched up his first year as assistant superintendent at Roseville Golf Club in Sydney. Soles started his apprenticeship in 2009 at Bardwell Valley Golf Club before completing it after moving to Cronulla Golf Club. He received the STA NSW's highest overall pass for Certificate III in 2013 and while still at Cronulla went on to complete his Certificate IV and Diploma. Soles was awarded the 2015 highest pass in the Diploma by the STA and his glowing reference from teacher Mark Mitchell was one of the contributing factors that saw him gain the role at Roseville.

Arriving there in March 2016 under superintendent Mark O'Sullivan, Soles has taken on the role with enthusiasm and determination. "Mathew is very courteous, efficient and extremely reliable," says O'Sullivan. "He attends monthly greens committee meetings, records the minutes and prepares a report for the monthly board meeting. He also returns regularly to TAFE as a guest speaker."



## SIMON WORK

Assistant superintendent  
Mount Osmond GC, SA

Finishing high school in 2001, Simon Work knew straight away that turf would be his chosen career path. Starting work as a casual at The Grange Golf Club, in early 2002 he was offered a full-time job at Kooyonga Golf Club. During his early days there he studied Certificate III in Sports Turf Management, achieving the qualification through night school as no apprenticeships were conducted through the club at the time. Certificate IV followed during which time he was promoted to leading hand.

After nine years at Kooyonga, during which time he was involved in three Jacob's Creek Opens, Work took up the position of assistant superintendent at Mt Osmond Golf Club under superintendent and current SAGCSA president Barry Bryant. There now for the past five years, Work has started his Diploma in Turf Management which he is due to complete mid-2017. 🍷

## NZGCSA FTMI CANDIDATES



### KIEL STECHMAN

Assistant superintendent  
Manawatu Golf Club,  
Palmerston North

Thirty-four-year-old Stechman is currently the assistant superintendent at Palmerston North-based Manawatu Golf Club. Stechman joined the crew under superintendent Malcolm Wells in 2012 and recently helped prepare the course for the 2017 NZPGA Championship.

Stechman got his start in the industry as a 20-year-old in 2003 when he successfully applied for an apprenticeship at Carterton Golf Club in the lower reaches of New Zealand's North Island. After completing his apprenticeship he moved south to Wellington and took on the sole charge role at Ohariu Valley Golf Club, a nine-hole country course located in Johnsonville. From there he moved onto Brookfields in Palmerston North, another nine-hole course but which is privately owned.

Early in 2011 he returned to Carterton as superintendent before moving to Manawatu the following year. Since arriving at Manawatu he has assisted Wells in preparing the course for three NZ Charles Tour (Lawnmaster Classic) events, NZ amateur tournaments and most recently the 2017 NZPGA in March. Stechman is also on the committee of the Manawatu/Whanganui Greenkeepers Association.



### ALEX YATES

Greenkeeper  
Royal Wellington Golf Club,  
Wellington

2017 is quickly becoming a year to remember for Alex Yates. He completed his Level 5 National Certificate in Sports Turf Management, was selected to attend the 2017 AGCSA FTMI and in a few months' time will help prepare the prestigious Royal Wellington Golf Club for the 2017 Asia Pacific Amateur Championships.

Yates embarked on his turf industry career a decade earlier, starting his Level 4 apprenticeship with the Wellington City Council. This gave him the opportunity to work on a wide range of surfaces including cricket blocks, football and rugby grounds as well as a golf course. Experiencing this variety enabled Yates to discover his passion for golf course maintenance and in 2014 he joined the crew at Royal Wellington Golf Club under superintendent John Spraggs.

As well as completing his Level 5 while there, Yates also assisted in getting the course up for the 2016 NZ Amateur Championship, one of the highlights of his career to date. Yates is also on the committee of the Wellington Golf Course Superintendents Association where the focus for this year is on implementing a Trainee of the Year Award.





# Out of this world fungicide rotation



VELISTA is a powerful broad spectrum fungicide that can be used all year round. VELISTA can be trusted to keep your turf in excellent condition especially when high temperatures and high humidity hit your facility.



syngenta®

For more information call the Syngenta Technical Product Advice Line on:  
Freecall 1800 067 108 or visit [www.greencast.com.au](http://www.greencast.com.au)

For more information ask your Syngenta Agent or go to [www.greencast.com.au](http://www.greencast.com.au)

Syngenta Australia Pty Ltd, Level 1, 2-4 Lyonpark Road, Macquarie Park NSW 2113. ABN 33 002 933 717.

©Registered trademark of a Syngenta Group Company. ™Trademark of a Syngenta Group Company.

©2017 Syngenta. All products written in uppercase are registered trademarks of a Syngenta Group Company. SB 17-134



The greens reconstruction project at Kew has been a key component of a seven year goal to improve the course and playing conditions for members. Pictured is second year apprentice Fraser Heron-Paterson cutting the 13th green for the first time after being resurfaced

## Kew's new look

Starting in mid-2016 and finishing May 2017, Kew Golf Club undertook an audacious greens replacement project which has seen all surfaces reconstructed to USGA specifications and grassed with MacKenzie bentgrass. Course superintendent Cameron Hall looks back on what has been a busy start to his tenure at the club.



Over the last seven years Kew Golf Club in Melbourne's inner eastern suburbs has invested heavily on the course and its playing surfaces. With a clear drive and vision to return Kew to its former glory, the course has seen some dramatic changes.

Under the guidance of course architect Graeme Grant, fairways were drained, re-contoured and sand capped in order to make playable all year round, while bunkers were reconstructed, drainage and matting installed and rough, jagged edges incorporated into the finished product. As a result the course has changed its look and feel quite dramatically. Initially the club did not touch the greens surfaces, but in the years that followed a number of greens were rebuilt as the club strove to continually improve.

After my commencement at Kew in September 2015, having replaced long-term and highly respected superintendent Adam Robertson, I presented a proposal to the board of directors that instead of following the strategic plan goal of completing three greens a year, we should embark on a project whereby we completed the remaining 12 greens over the next 16 months.

Having a course with six pure bentgrass greens and the remaining old *Poa annua* push-ups presented a number of agronomic difficulties and a

major lack of uniformity in the putting surfaces for the members to play on. The major issue was the condition of the older greens in winter as they would become extremely soft due to the high thatch levels and lack of drainage.

With the major backing of the board, led by captain John Doggett, and chief executive Mathew Loughnane, we began the process of informing the membership of our plan and how it would be carried out. Despite initial fears on the feedback we would receive, the vast majority of it was positive with members happy to put up with one year of pain instead of intermittent disruptions over the next four years.

During this period we had also engaged Paul Jones from Ways with Water to do a complete audit on our aging irrigation system which was continually causing problems (regular blowouts and a lack of distribution uniformity being the major issues). Paul came back to the club with the recommendation that we needed a complete upgrade of the whole system in the next 2-3 years.

Discussion was then held in regards to running both the irrigation install and greens reconstruction projects concurrently and after being approved by the board we went to tender with A&M Irrigation, led by Brendan Graham, being successful for the install of the new Toro decoder system.





Previously it had been trialled on a couple of areas on the course but results were not positive so the idea had been shelved. Having worked with the grass type in its early stages at Royal Melbourne and also in my time at Kingsbarns in Scotland, I had some small experience in dealing with this grass and thought it was worthy of consideration again.

After a lot of research, discussion and field trips, it was decided to move forward with the use of the fine fescue for our surrounds. The major point everyone we spoke to emphasised was that during the early stages you needed to be patient and give it time to grow-in properly. Looking back now, as we reach the end of the project, this piece of advice was without a doubt the most important I received. On some of the earlier holes we completed, looking back now we put the fine fescue under too much pressure early without giving it time to fully mature.

Once it was decided to move forward with fine fescue on surrounds, we consigned Australian Seed and Turf to grow 4000m<sup>2</sup> which would get us through this stage of the works. We have also begun in a number of areas throughout the course to oversow the Santa Ana couchgrass with fine fescue. Our focus to begin with has been on areas around greens that severely thin out over the cooler months and where we receive criticism for the lack of coverage. Results so far have been positive and continual overseeding is to take place so that we have a higher seedbank in the ground and increased coverage.

**MacKenzie creeping bentgrass has replaced the existing predominantly *Poa annua* greens, with fine fescue chosen for the surrounds. Pictured is the 4th green**

## GREEN LIGHT

With the fundamentals of the project ticked off by the club, it was now time to move onto the next stage of the planning. SJM Turf and Civil had previously carried out the majority of work at Kew so they were engaged to carry out the earthworks with the first task being to enlarge our bentgrass nursery to a size of 1500m<sup>2</sup>.

At this point the nursery was 1000m<sup>2</sup> which would give us a green on course and the putting green, but we wanted to be able to get two large/three small greens from our nursery when established. Knowing that we would still not be able to turn around the nursery quick enough in our timeframe, we engaged Australian Seed and Turf to consign grow another 3000m<sup>2</sup> of MacKenzie bentgrass at their Carrum Downs turf farm.

At this stage it was brought to the discussion table the type of grass we would be using for the surrounds – were we to continue with the one metre bentgrass collar and then head straight into Santa Ana, or should we explore other options?

One of the biggest issues we face at Kew is the amount of traffic, shade and wear we have around the greens, with a number of areas struggling to get through winter. It was at this point that we began looking at fine fescue as a grass of choice around the greens.

**In addition to the greens reconstruction project, a new irrigation system was installed concurrently**







Hydroseeding one of the target greens on the driving range. Fill from the existing greens was used to create additional mounding at the end of the driving range

## BREAKING GROUND

With turf all ordered and members informed of the plan of attack going forward, we welcomed in the excavator from SJM to start on our first green. The old green and surround was sod cut, sometimes twice so we could reach the thatch depths, before being stripped and removed off site. Soil was then removed off the green and transported down to the end of the driving range so we could begin stockpiling as we planned to construct mounding at the end of the range to protect the 12th tee.

Once all soil was off the green we would then form our clay base. On some greens we could use the existing base, while others we had to mine areas on the course to give us extra clay to form the adjusted bases. A ring main of slotted pipe was installed before lay flat pipe was put on the base followed by the gravel layer.

Once this was ticked off by the designer, the sand went on before amendments were applied, rotary hoed in and a final screed gave us the finished product. At this stage we were also boxing out 200mm around the surrounds and replacing with sand and installing any drainage where we saw potential problem areas. Irrigation was also installed around the greens and surrounds at this point meaning coordination and organisation on everyone's behalf was very important.

All turfing was carried out in-house by our staff with the green surface going down one day followed by the fine fescue surround the next. Once the turf was down the major challenge of the project started – the grow-in period and getting the turf as established as possible in a very short time.

Kew is a very high traffic course with a high number of corporate events held and one of the prerequisites put down at the start of the project was that there was to be no more than one temporary green in play at any one time. This had no major effect in the early stages of the works, but towards the end when numerous greens were out simultaneously we were working with as little as four weeks from laying the turf to it being used for play, with approximately 1150 rounds a week coming through.

It was vital that the turf was in excellent condition when it was laid to help with establishment. We aimed to get our first cut after 6-7 days of laying at a height of 7mm. After two cuts at that height it received its first topdress, followed by another couple of cuts at that height before eventually being brought down to an opening height of 5mm. After the initial topdress we would give it another two dressings before opening.

Throughout the whole project communication to members was a major focus for us with regular emails, Facebook posts, tweets and podcasts being produced for the members. The podcasts proved to be the most beneficial and popular mode of communication as we were able to produce it from the exact worksite we were discussing while at the same time panning the camera around to show pictures while we described what we were trying to achieve. This also eliminated any backlash from members saying they had not been informed of what was happening when all these different modes of communication were being used.

In the early stages of 2017 we started work on the 4th and 18th holes, both par threes. Both of these holes were full rebuilds with green, surrounds, fairway, bunkers and, on the 18th, the tee complex

Par three holes 4 and 18 (pictured) were full rebuilds with green, surrounds, fairway, bunkers and, on the 18th, the tee complex as well. Over this period Kew GC staff laid over 11,000m<sup>2</sup> of turf on these two holes





as well. Over this period the course staff laid over 11,000m<sup>2</sup> of turf on these two holes alone. For a while there it was an endless procession of turf deliveries, with a number of very sore staff members at the end of each week!

## MOVING FORWARD

Greens which have now been in play for between six and 12 months are maturing very nicely with excellent feedback received by members and guests. A number of changes have been implemented to manage these greens moving forward. We now only use walk-behind mowers on our greens which has improved the surface, while regular vertidrainage combined with Ninja tining is carried out monthly on a rotational basis.

Originally we were dusting greens fortnightly on a Monday morning, but with our large trade numbers we found we were missing out on a regular basis and our plan was not being able to be followed. We have now instigated dusting with kiln dried sand every Monday with us applying 2.01kg per square metre for the year. This has had a pronounced benefit on the playing surfaces with smoother and firmer greens now evident after following through with this for the past six months.

Hand weeding of *Poa annua* is also carried out along with the use of weed dabbers using endothal as we target the larger Poa plants on some of the older greens. Without a doubt the biggest adjustment to the staff has been how we water and the increased focus and use of hand watering and the use of moisture sensors to pinpoint where we need to target when we water.

Looking back now at the project as we reach the completion I am extremely happy and proud at what we have been able to achieve in such a small amount of time. To achieve all of this you need everyone pulling together in the one direction and a positive attitude to get the job done. As such there are many thanks that are owed to the following people and companies.

My staff have been outstanding with a fantastic 'can-do' attitude and always completing every challenge thrown at them. Assistant superintendent



Tim Madder and turf technician Ken Petty have been huge benefits in their assistance and feedback during this period, while the staff at SJM and A&M Watering were fantastic. Graeme Grant's expert input was always welcome.

And finally, but by no means least, the Board of the Kew Golf Club, led by John Doggett, for supporting us through this last year, our chief executive Mathew Loughnane and the members of the club who have put up with a huge amount of disruption. Hopefully the short-term pain will be worth the long-term gains.

To have been involved in a project like this has been a great experience with many different challenges thrown our way over the past 15 months. It has been a highlight of my working career and hopefully in the coming years the positive results will show for all who play at Kew Golf Club. 🙏

All turfing was carried out in-house by Kew GC staff with the green surface going down one day followed by the fine fescue surround the next

Greens which have now been in play for between six and 12 months are maturing very nicely, with excellent feedback received by members and guests. Pictured is the 17th green after turfing



# Golf Course Construction, Maintenance & Renovation

[www.globalturf.com.au](http://www.globalturf.com.au)

Exclusive Australian distributor of Capillary Concrete

Global Turf provides innovative and tailored solutions to meet your golf course turf needs.

Call us today to speak to a leading turf expert!

Garry Collins 0418 127 216  
garry@globalturf.com.au



## GLOBAL TURF





The fundamentals of turfgrass management are understated. They are simple to grasp but difficult to perfect; they are not the latest and the greatest but have a proven track record

# Back to basics

Understanding and perfecting the fundamentals of plant nutrition, water management, pest management, mower setup and topdressing will elevate any putting green management programme write USGA agronomists Chris Hartwiger and Zach Nicoludis.

**T**ake a trip to the practice range during any professional golf event and you will see even the most experienced golf professionals working on fundamentals like alignment, grip and posture. Failure to get these right can lead to a myriad of undesirable compensations in the rest of the golf swing. In a similar way, there are several basic putting green management fundamentals that need to be adhered to if quality playing conditions are to be achieved.

The fundamentals of turfgrass management are understated. They are simple to grasp but difficult to perfect; they are not the latest and the greatest but have a proven track record. This article is all about the fundamentals. Whether you manage the maintenance operation at a small regional course, a public access facility or have the largest budget in town, this article will help you improve putting green management by focusing on the fundamentals of plant nutrition, water management, pest management, mower setup and topdressing.

To facilitate cohesiveness among each of these topics, each fundamental has been structured the following way:

- Purpose;
- Intended outcome;
- Steps to take;
- Is it working? and
- Adapting to local conditions.

## PLANT NUTRITION

**Purpose:** Turfgrass must be fertilised to ensure growth and a positive response to management practices such as irrigation and mowing. Actively growing turfgrass plants also have the ability to tolerate and recover from traffic-related injury, withstand climatic extremes and tolerate pests such as insects and diseases.

**Intended outcome:** The goal of fertilisation is to provide the turfgrass species at your course with sufficient levels of plant nutrients so that consistent growth can be achieved when temperatures and sunlight are in the optimum range. Consistent growth is predictable, which allows turfgrass managers to schedule other inputs accordingly. Ultimately, a consistently growing putting green that is well managed will provide a smooth and true ball roll. Wide fluctuations in growth should be avoided because they have a detrimental effect on playing conditions.

**Steps to take:** Soil testing is the best way to determine if nutrients are within desired ranges for plant health and consistent growth. However, nitrogen levels cannot easily be evaluated by soil testing because of its rapid fluctuation within plants and soil. Measuring plant growth rate is the best way to determine if nitrogen is needed.



Although hand-watering is a labour-intensive practice, it is worthwhile because it allows turfgrass managers to precisely address putting green water requirements



**Is it working?** Annual or semi-annual soil test reports will verify nutrient status and will tell you whether nutrients are within their desired ranges. Furthermore, comparing soil test reports over time will allow you to observe trends and make adjustments to your fertility programme as needed. Remember to evaluate the need for nitrogen by monitoring turf growth rate. A simple way to determine growth rate is to measure the amount of clippings collected by putting green mowers. There are a variety of ways to analyse clipping yield such as visually estimating clipping volume or physically weighing clippings.

Managing nitrogen is especially important because it causes the most rapid response in plant growth. Too much plant-available nitrogen will produce lush growth and increase the potential for disease and stress. Too little nitrogen will cause inconsistent canopy growth and reduce the ability of playing surfaces to recover from wear and ball marks. Also, certain diseases such as dollar spot and anthracnose are more likely to occur at low nitrogen levels.

**Adapting to local conditions:** The methods and means to apply fertiliser to putting greens vary greatly among golf facilities. It is possible to deliver nutrients in the right amount and at the proper time using granular fertilisers applied with walk-behind spreaders. However, many superintendents with access to a sprayer choose to spoon feed putting greens with smaller amounts of fertiliser more frequently. Either way, evaluating soil tests and turf growth rates will provide feedback as to whether your fertility programme is on track.

## WATER MANAGEMENT

**Purpose:** Water management has a significant influence on playing conditions, especially when it comes to putting greens. Diligent water management must be a priority for all golf facilities. Water should only be applied to putting greens to maintain adequate plant health and produce quality playing conditions; any additional water can have negative effects.

**Intended outcome:** Smooth, consistent putting conditions and resilient turf should be the goal of

putting green water management. To achieve this goal it is important to only apply water to the areas that need it. Unfortunately, this is easier said than done because there are many factors that influence putting green water requirements.

**Steps to take:** Understanding the amount of moisture in the soil profile is the first step in determining how much water to apply. Using moisture meters to accurately measure soil moisture helps turf managers make informed irrigation decisions. If a moisture meter is not part of your daily maintenance programme, invest in one. An accurate weather forecast is another critical resource for making good irrigation decisions. Evapotranspiration (ET) is one of the key components of a forecast that must be considered before irrigation is scheduled.

Moisture meter readings, weather forecasts and a thorough understanding of each putting green's microclimate form the foundation of sound irrigation decisions. Using the 'set-it-and-forget-it approach' and scheduling the same irrigation runtime for all of the putting greens fails to address the individual water requirements of each putting green and will inevitably reduce turf health and playing conditions.

Make every drop of water count at your facility. Understanding precipitation rate, reducing run times based on irrigation head arc and pressure, raising/levelling heads, using proper nozzles and measuring soil moisture helps improve irrigation efficiency considerably. Also, keep records of irrigation reduction to evaluate how effective these strategies are over time.

**Is it working?** Putting greens must be assessed daily to determine if irrigation practices are producing the desired results. Watering to maintain lush, green turf often results in too much water being applied. Overwatered turf is more susceptible to footprinting, deep ball marks, algae, black layer, disease and turf thinning. Conversely, too little water can cause wilt, localised dry spots, turf thinning and an inconsistent canopy. Ultimately, it is far easier to correct issues with under watering compared to over watering. As the old adage goes, water can always be added but once it has been absorbed by the soil there is little that can be done to remove it.

**Adapting to local conditions:** Superintendents



Moisture meter readings, weather forecasts and a thorough understanding of each putting green's microclimate form the foundation of sound irrigation decisions

A simple way to determine growth rate is to measure the amount of clippings collected by greens mowers



**NEW**

## Introducing VELISTA.

Out of this world fungicide rotational partner.

Learn more about VELISTA at the **Syngenta stand** and place an order to take advantage of the conference offer.

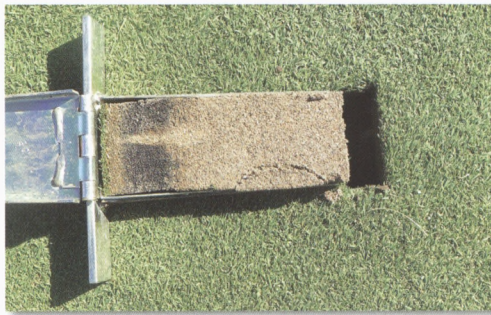
Syngenta Australia Pty Ltd, Level 1, 2-4 Lyonpark Road, Macquarie Park NSW 2113. ABN 33 002 933 717.



**syngenta.**



Poor sprinkler uniformity and improper watering practices can create waterlogged soil conditions that lead to the development of black layer



must regularly evaluate sprinkler performance to ensure that water is being evenly applied. Uneven water distribution will result in poor turf quality and undesirable playing conditions. Moisture meters can be used to identify irrigation system coverage issues by pinpointing variations in moisture content. When a significant discrepancy in soil moisture is noticed, sprinkler performance should be evaluated to determine if adjustments or repairs are required.

Monitoring irrigation performance and making necessary adjustments is important for all golf courses, but it is especially important for golf facilities that have limited labour and cannot compensate for irrigation deficiencies with hand watering.

## PEST MANAGEMENT

**Purpose:** Pests are unwelcome guests that can compromise the conditions of any playing surface, but pest damage is most serious when it affects putting greens. Severe pest outbreaks on putting greens can have a significant impact on the bottom line of any golf facility.

**Intended outcome:** The goal of every pest management programme is to produce putting greens that are healthy and enjoyable to play. To achieve this outcome, turf managers must be on the lookout for weeds, insects, diseases and hard-to-detect pests such as nematodes. Perhaps most importantly, turf managers must find ways to manage pests within the realm of affordability and efficiency.

**Steps to take:** Education is the underpinning of sound pest management decisions. Superintendents must be knowledgeable about pests common to their area, when pests are likely to become problematic and what control options are available. Agronomists are valuable sources of information

on local pests while there are dedicated agronomic service providers who undertake disease diagnosis for a small fee. Textbooks, articles and product manufacturers can also provide valuable pest control information.

**Is it working?** The goal of a cost-effective pest management programme is not an absence of pests; rather to keep pest activity at a level that does not significantly compromise the playing experience. Scouting for pests is an effective way to assess pest management programmes. However, some pests such as nematodes are difficult to scout because of their size or location. For example, lab tests are often required to determine the presence of nematodes, identify the types of nematodes that are present and estimate the size of nematode populations.

**Adapting to local conditions:** Budgets and pest pressure vary widely among golf courses. In some areas, superintendents can follow a curative pest control programme whereas other areas require a preventative approach. Following the path of education first, pest identification second and selecting a control method third will lead to the best outcome regardless of budget.

## MOWER SETUP

**Purpose:** Mowing a putting green is a precision-oriented practice designed to alter turf height and manipulate canopy texture. Adjustments to mowing heights are made in tenths and hundredths of millimetres. Even the slightest change in mowing height can result in scalping or unmown turf. The hallmarks of an excellent mowing programme are sharp reels, sharp bedknives and precise mower setup.

**Intended outcome:** Mowing has a tremendous impact on putting green health and playing quality. Ideally, all the mowers in a fleet will be set up to produce the same result on all the putting greens – i.e. smooth, true ball roll.

**Steps to take:** To make an immediate improvement in the quality of mowed turf, first focus on maintaining sharp reels and bedknives. A reel and bedknife setup that is sharp enough to cut paper today will not remain razor sharp for very long. A system of backlapping, reel grinding and adjustment must be in place for mowing to deliver excellent playing quality. In other words: sharpen, mow, check and repeat.

**Is it working?** Answering these key diagnostic questions will help assess the effectiveness of your mowing programme:

- Are all mowers able to cut paper when they are sent onto the course? If the answer is no, there is an opportunity for improvement.
- How often are the mowers backlapped or the reels and bedknives sharpened? Frequent backlapping and sharpening yields more consistent results.
- When inspecting a putting green after mowing, is there any distinction in colour from one side

The goal of a cost-effective pest management programme is not an absence of pests; rather to keep pest activity at a level that does not significantly compromise the playing experience





of a mower pass to the other? If the colour fades from one side to the other, chances are the mower setup can be improved.

- Is mechanical damage such as scalping present? If so, double-check for inconsistencies in the height of cut at both ends of the bedknife. Look for any physical damage to the bedknife, reel or rollers. Be aware that the problem may not always be mechanical. Sometimes a finely tuned, sharp mower scalps because the grass is growing too fast.

**Adapting to local conditions:** Ideally, every facility would have a state-of-the-art reel grinder and a technician dedicated to checking and adjusting the putting green mowers every day. In reality, access to such equipment and expertise is limited, so the principle 'sharpness first, repeatability second' should be applied. Improved putting green mowing starts by obtaining the basic equipment that can improve mower sharpness. Most golf courses can afford backlapping machines and it is possible to arrange off-site reel grinding with equipment distributors. Also, consider taking education courses on maintaining and sharpening equipment. Finally, work to develop systems that allow you to focus more attention on daily mower setup.

## TOPDRESSING

**Purpose:** Applying light rates of topdressing to putting greens at regular intervals helps maintain a

proper balance between air and water porosities by diluting organic matter as it is created. Consistent applications are critical to produce the desired results of a successful topdressing programme.

**Intended outcome:** The goal of topdressing is to create resilient turf and consistent playing surfaces that are less susceptible to ball marks, scalping and wear. Selecting a quality sand and applying it at the proper rates and times can minimise the short-term negative impact that topdressing occasionally has on playability while maximising the beneficial long-term effects on playing conditions and turf health.

**Steps to take:** What qualifies as quality topdressing sand? Following these guidelines is recommended:

**Putting quality and turf health decline when diseases are left untreated. Well-timed applications of plant protectants help control diseases such as dollar spot**



**PGG Wrightson Turf**

## Pure surfaces

*Bentgrasses ideally suited for Australian conditions.*

**MacKenzie**  
CREEPING BENTGRASS

- Stress tolerant
- Fine density
- Low maintenance

MacKenzie creeping bentgrass is a high quality turfgrass for greens, tees and fairways and is bred from stress-tolerant germplasm. It has high density through all seasons, winter active growth, bright medium colour and a fine leaf texture.

### Pure Distinction creeping bentgrass

- Stunning quality
- Low maintenance
- Recovers quickly

Pure Distinction is the ultimate bentgrass for smooth and true putting greens and ideal for tees and fairways. Pure Distinction also has strong resistance to diseases and outstanding resistance to heat, cold and wear.

#### Also ask us about

Penncross creeping bentgrass • Penn A-4 creeping bentgrass • Penn A-1 creeping bentgrass

For further information contact your PGG Wrightson Turf Representative or free phone 1800 DURATURF

info@pggwrightsonturf.com.au  facebook.com/pggwrightsonturf

pggwrightsonturf.com.au





◀ The hallmarks of an excellent mowing programme are sharp reels, sharp bedknives and precise mower setup

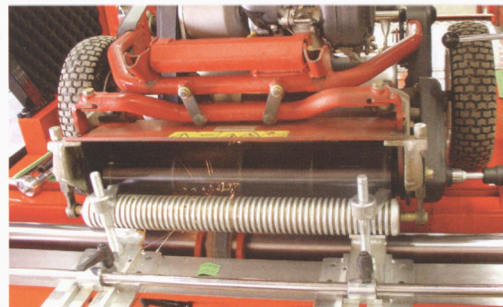
- The majority of particles should fall between 0.25mm and 1mm in size;
- No particles larger than 2mm;
- Less than 3 per cent clay content;
- Less than 5 per cent silt content; and
- Low uniformity coefficients should be avoided (Moeller, 2015)

Once a sand is chosen, a sample should be sent to an independent soil testing lab to ensure that the analysis provided by the producer is accurate. Continue to test topdressing material annually to ensure that it remains consistent. Topdressing should be applied to putting greens every one to three weeks at a rate that matches turf growth.

Topdressing applications can be effectively made using a variety of equipment. However, uniform sand distribution should be the priority no matter which type of equipment is used. Otherwise, additional brushing will be required to disperse unevenly applied sand.

Sand incorporation is best achieved with a cocoa mat, pull-behind brush or tennis court brush. The putting surface should only have to be brushed once or twice after a light, uniform application of sand. A small amount of irrigation after brushing will help to further incorporate sand into the turf canopy.

**Is it working?** Visually inspecting the soil profile is a quick and easy way to determine if a topdressing programme is effective. The presence of alternating



light and dark layers indicates that there are inconsistencies in the topdressing programme, while a uniform distribution of sand indicates that the proper amount of topdressing is being applied.

**Adjusting to local conditions:** Kiln-dried sand should be used if it is available. While there is a higher cost associated with sand that has gone through a drying process, the ease of incorporating dried sand into the turf canopy is well worth the added investment. Also, designate an area for sand storage to protect topdressing sand from moisture and contamination. Covered bins and sand silos are two common and effective methods of storing topdressing sand.

Increased wear on mower bedknives and reels is a drawback to putting green topdressing programmes. As sand is picked up by mowers, the quality of cut diminishes because the reels and bedknives become dull. If putting greens are regularly topdressed, additional backlapping or grinding will be necessary to maintain sharp reels and bedknives.

## CONCLUSION

Managing putting greens that provide maximum golfer enjoyment within an available budget epitomises the art and science of greenkeeping. The fundamentals presented in this article never go out of style – they may seem mundane or basic, but considering them within the context of your maintenance operation and executing them on a consistent basis will always produce good results.

## ACKNOWLEDGEMENTS


This article has been reprinted with permission of the USGA. The original article – 'Five ways to improve putting green quality' – featured in the Green Section Record Vol. 55 (5), 3 March 2017. Chris Hartwiger is director of the USGA Green Section's Course Consulting Service and Zach Nicoludis is an agronomist in the USGA Green Section's Central Region. 🌱

Below right: Scalping occurs when too much turf is removed during any one mowing

Below: Spin topdressers are an efficient way to apply topdressing sand





A person is seen from behind, driving a green John Deere Z500E riding mower across a lush green golf course. The mower is moving away from the viewer towards a sand trap and the ocean in the background. The sky is clear and blue.

# Will you be the winning team?

Celebrating its fifteenth anniversary, the John Deere Trans-Tasman Team Championship takes place on 11 and 12 October 2017 at one of the top ranking courses in New Zealand – Gulf Harbour Golf Course.

Open to teams from all clubs, you simply need to nominate your team and attend a qualifying event to participate.

**Don't miss out! Contact your local John Deere Golf dealer today to register.**



**JOHN DEERE**  
GOLF

Chosen by the world's best courses.



# Contractor checklist



Appointing the right contractor to undertake improvement works at your course or turf facility is an extremely important decision. 33rd Australian Turfgrass Conference keynote presenter Lee Strutt takes ATM readers through his five step process to ensure a successful outcome.

**Above: Appointing the right contractor can make or break any course improvement project. Careful planning is the cornerstone of any successful project**

Inform contractors of your site restrictions and rules (i.e.: no alcohol or drugs, speed restrictions on site, sensitive areas etc)

**T**he golf course industry is a competitive one and it is important that golf clubs continue to invest in improvements to their facilities to not only retain members but lure potential members, corporate events and green fee players.

While many course projects are able to be undertaken in house by maintenance staff, inevitably larger scale improvement works such as an irrigation system upgrade, maintenance facility construction or greens reconstruction programme will require the appointment of a contractor(s) to undertake the majority of work.

Appointing the right contractor can make or break any project and therefore it is imperative from the initial stages of planning that you, your staff and your club are across all aspects. For those who haven't undertaken such works it can be a daunting process but one which is nonetheless essential when it comes to doing your due diligence.

The old saying that 'everyone views things differently' is one of the key considerations to keep in mind when appointing a contractor. Getting everyone to understand your vision and communicating your aspirations clearly to anyone involved in the project process is vital.

If you want the outcome to be successful, then clearly appointing a process that sets out a good clear framework is essential. In my time as a turf

manager I have undertaken various projects which have required the appointment of a contractor and in each instance I employ a simple five point check process;

- Research;
- Discuss;
- Appoint;
- Site arrival; and
- Completion.

## RESEARCH

Before any consideration is given to hiring a contractor, you need to highlight all your requirements and what exactly you want to be undertaken by a contractor. A document using bullet points helps identify the scope of works, your overall vision (or end concept), timeframes and what sort of standard you want achieved. These are key to setting out an initial framework.

With a clear step-by-step breakdown of your requirements, it will help you to identify the skills you require from the contractor and in some cases it will identify the need for more than one specialist contractor to undertake the works.

Sourcing the right contractor can come from several avenues – trade shows, trade publications, internet, personal recommendations, etc. Regardless of the source, you will want to identify a short list of several contractors, typically three or four companies, which can supply you with the basic information for your project. This would be by several assessment avenues – previous client contract references, company setup including key staff, project experience, machinery fleet (if applicable), expertise, financial standing and what other contracts that they are currently working on.





## DISCUSS

When you have decided on the three or four contractors that you feel are appropriate to your project and you feel comfortable that any one of the companies could undertake the work, you will need to draft a document framework into the requirements of the project and what you expect the successful contractor to undertake and what you will undertake (see Table 1 on following page for a typical tender breakdown document covering essential elements).

The framework should include but not be limited to;

- Headlining an overview of the task to be tackled and broken into sub-groups on specific issues.
- Talk about your expectations and standard of finish that you require. Do not assume any contractor will work to your standards.
- A method statement and time scale chart from the contractor on how they propose to conduct the task and what problems may arise.
- Discuss how and when progress site meetings should take place.
- A breakdown of proposed budget cost and talk about contingencies if something should go wrong.
- Discuss down time costs and what constitutes standing down – (i.e.: weather, sickness or machine breakdowns). Who calls a halt to the contract?
- How will the contractor manage their...

## INTRODUCING LEE STRUTT

2017 Australian Turfgrass Conference keynote presenter **Lee Strutt** (pictured) is course manager at the **Royal Automobile Club** in England and over the years has developed a reputation as being one of their industry's most progressive practitioners.

He is a Master Greenkeeper with BIGGA, a Certified Golf Course Superintendent with GCSAA and a Master Superintendent with CGSA (Canada). He is particularly passionate about greenkeeper education and is heavily involved in several of BIGGA's continuing professional development initiatives and is a mentor for the Future Turf Managers' Initiative.

Strutt will be conducting one of the two Jacobsen-sponsored Monday workshops at Twin Waters which have proven a popular addition to the conference format in recent years. His full day workshop will focus on budget building for golf course management, which will provide a step-by-step guide to the relevant factors that constitute a golf course budget, budget building, monitoring, selling/justification and how to protect budget outcomes. Delegates will increase their understanding and confidence in the factors that relate to golf course budgeting through a mixture of PowerPoint presentation, group participation and role-play.

In addition to the Monday workshop (10am-3pm), Strutt will also present on his experiences at the 2016 Ryder Cup at Hazeltine National Golf Club where he was part of the 100-plus strong course volunteer corp (Plenary Session – Tuesday 27 June, 10.45am). He will also be a part of the Turfgrass Talkback Forum (Plenary Session – Tuesday 27 June, 2pm) and give a talk on golf course management trends in the UK (Golf Stream – Wednesday 28 June, 9.10am). On behalf of all AGCSA members and conference delegates, the AGCSA wishes Lee a warm welcome Down Under.



## parkland

Australian Distributors of Spectrum Monitoring Equipment, Toro/Rainbird Golf Dealers

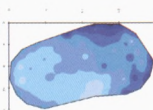


### WatchDog®2000 Series Weather Stations

- New 2900ET Weather Station - efficient AND economical
- Full featured ET weather station measures temperature, humidity, rainfall, wind, and solar radiation
- Weather station can be customised with additional plug-in sensors eg: soil moisture, light, barometric pressure to suit your needs
- 3 connection options - direct connect, wired modem or 900MHZ (license-free) radio.
- Standalone or integrates fully with Toro Lynx Central Control software.



**Spectrum**  
Technologies, Inc.



### Irrigation Auditing

Parkland's **audit services** are practical and provide reassurance, and help you get the best out of your existing system by:-

- Determining if a system is efficient & effective
- Finding ways to reduce power, chemical, labour & water costs
- Helping to optimise plant health

Parkland's irrigation technicians use the latest technology for precision analysis and focus on recommending cost effective improvements to conserve water, improve coverage and to prevent problems arising.

*"The support we have received from Parkland has been excellent. Their product knowledge, product supply and after sales support has been very professional even extending to a call out on Christmas Eve to troubleshoot and repair an irrigation control issue that we could not fix in house."*

Ben Tilley, Superintendent at Headland Golf Club, QLD







**Talk about your expectations and standard of finish that you require. Do not assume any contractor will work to your standards**

- Health and safety programme;
- Operational setup;
- Equipment and material storage;
- On site office or central point contact; and
- Snagging procedure
- The contractor's staff profile, education, experience and any previous recommendations from previous clients with contact details.
- Use the same set of questions for each tender so as to have a like for like comparison.
- Inform contractors of your site restrictions and rules (i.e.: no alcohol or drugs, speed restrictions on site, sensitive areas, waste disposal, noise control, start and finish times etc.)

## APPOINTMENT

Identifying the right contractor from your tender list and other supported information (i.e. references) should now be easier. All the information provided through your discussions and the contractor's tender submission should support your decision. As with all things in life, the lowest tender price will

not necessarily result in the cheapest project cost. You will need to assess and compare the rates put forward from each contractor. For example in the UK we have reference books such as Spon's Landscape & External Works Price Book which provides a rough framework to costing for most or specific areas of a project.

Before your final selection, request that the company attend an onsite meeting, bringing with them the onsite personnel for the project. Quite often the contract will be dealt through a sales team and not necessarily the supervisor who will be implementing the contract. Meet them and make sure you feel they can communicate and deliver what is to be agreed on. Most importantly, do they give you confidence?

## ON SITE

Once the contractor has been selected and all contracts agreed, there will be the onsite formalities to be outlined to all contractor personnel when they arrive. Details may cover;

- Site inductions, making sure all contract personnel understand your existing on-site regulations (i.e.: speed restrictions, codes of conduct, WHS etc...)
- Contact details, covering emergency contact numbers for both yourself and the contractor.
- All contractor employees must provide all their necessary certified documents for referencing (i.e.: certificate of competence for all relevant areas of the project – operating equipment etc... these should be photocopied for reference).
- Site office or central point of contact are clearly marked so all deliveries or contacts are directed to the right location and to the right personnel.
- Request all delivery documentations to be submitted and copied. These will help prevent being billed for materials not delivered or double billed and clarified when invoices are submitted.
- Communication and introduction to your own team, so that they also know who is who and what and when it is happening.

## COMPLETION

Hopefully the project and contract has gone to plan and if not, it should have been documented and discussed by both sides on the outstanding issues and a resolution plan agreed. Good regular snagging lists and photographs are always good tools to monitor costs, progress and establish quality standards.

Good clear communication and professionalism will always help make any contract a success. Remember no matter what, there will always be something that didn't go to plan. Record it, discuss it with your team and the contractor and understand how it could be avoided or adopted in your next project. As with anything in life, you learn more from your mistakes than your successes.

**TABLE 1. TYPICAL TENDER DOCUMENT BREAKDOWN**

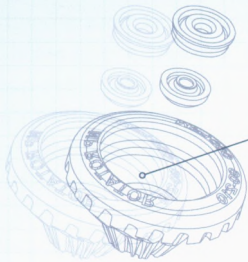
Supply of Documents, Setting Out etc.	Adjustment of Completion Date
1.1 Contract documents	1.12 Notice of delay – extensions
1.2 Levels and setting out of the works	1.13 Relevant events
1.3 Construction information	
1.4 Further drawings, details and instructions	<b>Practical Completion, Lateness and Liquidated Damages</b>
	1.14 Practical completion and certificates
<b>Errors, Inconsistencies, Divergences</b>	1.15 Certificate of non-completion
1.5 Bills of quantities	1.16 Liquidated damages for non-completion
1.6 Instructions on errors, omissions and inconsistencies	1.17 Repayment of liquidated damages
1.7 Instructions – additions to contract sum, exceptions	
1.8 Divergences from statutory requirements	<b>Partial Possession by Employer</b>
1.9 Emergency compliance with statutory requirements	1.18 Contractor's consent
	1.19 Practical completion date
	1.20 Defects etc – relevant part
	1.21 Insurance – relevant part
	1.22 Liquidated damages – relevant part
<b>Unfixed Materials and Goods – property, risk etc.</b>	<b>Defects</b>
1.10 Materials and goods – on site	1.23 Rectification
1.11 Materials and goods – off site	1.24 Certificate of making good

CONTINUED ON PAGE 34

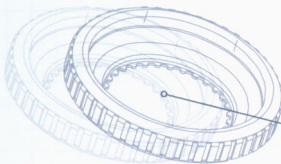


# EFFICIENT, DURABLE, RELIABLE.

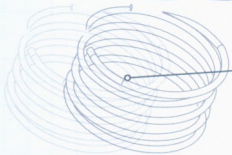
MP Rotator®



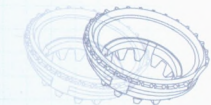
**Rotor** - Multi-stream, multi-trajectory technology cuts through wind and reduces misting.



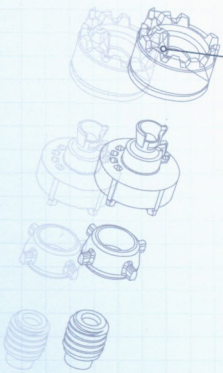
**Arc ring** - The MP Rotator provides a wide range of coverage from 1.5 m to 10.7 m with matched precipitation at any arc and radius.



**Spring** - The patented double-pop feature keeps the nozzle free of external debris for increased reliability.



**Nozzle** - The MP Rotator's low application rate prevents runoff and conserves water.



**nkler nozzle available on the market today.** The slow application rate allows even distribution of water throughout the irrigated area. This results in 30%  
nal sprays. With only one moving part and made with the highest quality  
ability in even the harshest conditions.

Innovation®

## Hunter®



Tel: 1300 856 368  
Fax: 1300 856 369  
[www.nelsonirrigation.com.au](http://www.nelsonirrigation.com.au)  
[info@nelsonirrigation.com.au](mailto:info@nelsonirrigation.com.au)

Suite 7, 202 Ferntree Gully Road, Notting Hill,  
Melbourne, Victoria, 3168, Australia  
Tel: 61 3 9562 9918  
Fax: 61 3 9558 6983





Stipulate hold points in the project to do internal checks and auditing of the contractor's work

## CONTRACTORS – THE DO'S AND DON'TS

**A**ustralian Turfgrass Management Journal canvassed Australian superintendents and turf managers to get their thoughts on the do's and don'ts and important considerations when it comes to appointing contractors to undertake course improvement works.

### DO'S

- Do your research. Background checks, references, sight their equipment/condition and whether it is right for the job. Make sure they have all the correct licenses, insurances and tickets to complete the work. Try to use companies you have dealt with before, or those who may be recommended to you by others.
- Speak to other superintendents who have undertaken similar projects and/or have used the same contractor that you are thinking of engaging. Contractors will only give you reference contacts of those people they know have had a positive experience.
- Be very clear and precise on the scope of works. Ensure you are happy with the specifications around the work(s) prior to these being submitted for pricing.
- You can never ask for too many clarifications. Ensure you have all the information you need to make a sound decision and or recommendation to your board/management.
- Do some maths yourself. Work out what it should cost to complete the work – you may end up being able to justify another employee and some machinery rather than engaging a contractor.
- Make sure the project manager, tender panel for the work has a background in the task to be completed. Don't let a construction engineer be in charge of building an oval – it won't work.
- Always, add an extra 15 per cent on the contractor's final tender. In other words, cost the work correctly and then allow for incidentals. Overspends create tensions between contractor/superintendent/committees. You will always be given a credit from your club if you complete work on budget.
- Make sure you are comfortable with the price.
- Agree to a realistic time frame and always have weekly updates on progress; you can make up ground early on, very hard to do so later.
- Inductions are a must – safety and environmental.

Don't go for the cheapest option. Taking the lowest quote initially saves money but it generally always costs much more in the long-term



- Once the contractor is on site, the relationship is essential. Conflict should be avoided at all cost, with diplomacy at all times. One can influence from the inside, not the outside. It is important to manage emotions.
- Allocate one of your staff to oversee/monitor the works on behalf of the club.
- Stipulate hold points in the work to do internal checks and auditing of their work.
- Locate all underground pipework, power cables etc before excavation and check any below ground work before backfill.
- If there are services (pipe, electrical etc) going in the ground ensure these are surveyed as they are installed to help create accurate 'as built's'.
- Depending on the size of the project, there may need to be a financial retainer held until practical completion is agreed, or the works are signed off by a building inspector or other relevant authority approving the works.
- Ensure there is a suitable defects liability period after the work has been completed.
- Ensure regular site meetings are in place if it's a long project.
- Inform the club of the works via notice boards, website, newsletter, social media etc...

### DON'TS

- Don't go for the cheapest option. If a price is too good to be true it probably is and should be removed from the tender process for this reason. Taking the lowest quote initially saves money but it generally always costs much more in the long-term.
- Don't employ your mates' companies, it can get complicated.
- Avoid short cuts – they always come back to haunt you.
- Don't have the supplier put the specification/design together. Have the design done by a reputable and independent third party.
- Don't rush your decisions, do your homework.
- Don't be afraid to question what is happening on site.
- Don't assume your contractor/s know how to behave in your workplace. Set the ground rules early and enforce them where needed.

### OTHER CONSIDERATIONS

- The contractor is there to make money as quickly and efficiently as possible; only a very small percentage are willing to take small bites of the cherry regularly and get repeat business based on the quality of their work.
- Some days you will have to be a mongrel and butt heads with the contractor to get the best outcome for your club.
- Staff changes with contractors during the course of a project can compromise work quality. 🙌



# Why fear the winter.

*Keep your grass in perfect condition with SeaWeed.*



## SeaWeed

ICL offers a wide range of turf and landscape fertilizers delivering outstanding results. Turf managers across the globe trust our cutting edge technologies to provide high quality nutrition for optimum health, performance, resilience and visual appearance. Using premium high density Atlantic *Ascophyllum nodosum*, Sportsmaster WSF SeaWeed contains 75% active seaweed content to enhance turf quality, colour and root growth. It also has TMax technology that is designed to improve overall nutrient uptake by the plant, both through the roots and leaves. 100% water soluble. Ideal to tank mix\* with wetting agents and plant nutrients.

\*Do not mix Sportsmaster WSF SeaWeed with any pure iron products.

Visit [www.icl-sf.com.au](http://www.icl-sf.com.au) for more details or contact your regional ICL manager

AU 1800 789 338 NZ +64 274 908 438

**ICL**  
Where needs take us

Fernland Agencies

**globe**  
GROWING SOLUTIONS  
WA only

**K&B**  
ADAMS PTY LTD



**Tas Turf Solutions**





Sand selection is one of the most crucial aspects to get right in any construction process, but unfortunately this is where many mistakes are made



## On spec

In the first of a two part article, AGCSATech environmental agronomist Bruce Macphee looks at some of the common pitfalls associated with sand selection and perched water table profile construction.

Construction specifications typically describe the materials, methodology, processes and set parameters to provide the desirable characteristics to set criteria of performance. These are often developed and refined over a long period of time and are based on past experiences.

The USGA specification for greens construction is no exception. The first specification was released back in September 1960 and since then has had several revisions (1993 and 2004) as new technologies have come onto the market. These have been tested and eventually approved to become part of the specification.

The USGA specification itself is based on years of testing and experience, with thousands of greens constructed around the world using this method. The specification itself can be applied to a wide range of profiles (eg: sporting ovals and race tracks) which require a similar set of performance characteristics to that of a golf green.

Large construction projects of this nature can cost a significant amount of money. Often one of the largest investments a club or sporting facility will ever make, if constructed correctly and managed properly, this initial investment, while significant, will pay dividends later on with exceptional performance.

On the other hand, when specifications are not followed or are modified in order to substitute cheaper materials or cut corners, that significant investment can be severely compromised. Unfortunately there are many examples about where cost-saving measures have led to a poor performing surface or sometimes complete failure. That has resulted in costly reconstruction and/or remedying works, not to mention the time lost in the availability of amenities to end user groups.

There are many examples of successful constructions that have used modified specifications, however, venturing down this path the turf manager must ensure all materials are thoroughly tested by a licenced laboratory using Australian Standards.

Contractors engaged to complete these works should also have a proven track record in sports turf construction. Methods and drainage principles often used in civil construction are very different to sports turf construction, where specialised equipment, materials and processes are implemented to ensure drainage, profile placement and finished levels are not compromised during construction.

### TYPES OF PROFILES

All too often we see the terminology for a profile type confused with the specification itself. A USGA profile refers to a construction that follows and conforms to the USGA specification, a strict set of guidelines that define the construction process, materials that can be used and the exact physical characteristics those materials should conform to.

A perched water table profile is more commonly constructed in Australia, which typically has a number of modifications to the specification to suit various climatic regions or allow the use of locally available materials (particularly sands) which may sit just outside the USGA specification.

In order to accommodate the use of sands more readily available in Australia, the conventional sand specification was developed by leading agronomist John Neylan in the 1980s. While close to the USGA specification, it allows for a wider distribution of particles and sands with a greater percentage of fine and very fine sand to be used as rootzone material (see Table 1 opposite.)



Another profile type commonly used is a sand carpet or 'California method' which involves the omission of a gravel drainage layer. Sand is placed directly on a compacted base with drains installed at approximately three metre spacings. While this may be suitable in some circumstances, research has indicated these spacings may be inadequate and create uneven soil moisture content across the playing or putting surface, where the profile is typically dryer above the drainage lines. This is an all too common situation in sporting fields, where drainage is installed too far apart and is either inadequate or a complete waste of money.

Factors such as local climate, annual rainfall, average rainfall events and soil type are just a few of the factors that need to be considered when determining the most suitable construction profile.

Below we will discuss some of the more important points of the specification, construction process, material selection and testing that should be undertaken.

### THE SUBGRADE

Whether constructing a single golf green or large sports oval, there are several guidelines to follow when preparing the subgrade:

- The subgrade should follow the general slope of the finished surface.
- The base should be thoroughly compacted to prevent any further settling.
- Low points which collect water to be avoided.
- Where the subgrade material is unsuitable it may need to be replaced, treated (stabilised) or covered with a geotextile fabric to avoid contamination of the gravel layer.
- The minimum fall on the base should ideally be greater than 1:100.

### DRAINAGE

The starting point for drainage design should be from the outlet point (lowest point) back to the highest grade point to ensure adequate fall available. The drainage network should be designed in such a way that the main drain line is located along the line of maximum fall, assisting quick water removal.

Lateral drains should be installed across the slope of the base to intercept water as it moves laterally through the gravel layer across the base. These drains should be installed no more than 5m apart. In a large scale construction, calculations will be required to determine catchment area, drain spacing, pipe sizes and water volume that is capable of being shifted within a given period of time. Consideration should also be given to designing a system that can cope with significant rainfall events in that region. Other considerations when designing and installing a drainage system include:

- A minimum slope of 1:100 on the base of all drainage trenches.
- Geotextile fabric should be removed from all pipe work installed in a sports turf construction.

- Lining the base and walls of trenches with geotextile fabric is acceptable; this will assist in preventing contamination of the aggregate with the finer surrounding subgrade soil.
- Geotextile fabric should never be placed over the top of drains as it can quickly clog with fine soil particles, dramatically reducing the ability of water to enter the drainage network.
- If a trenchless drainage system is being installed using flat pipe, it is recommended to place the pipe directly on the base and then slice the geotextile fabric open and simply lay flat on the base before covering the flat pipe with gravel.

### GRAVEL AND INTERMEDIATE LAYERS

In most instances in Australia a gravel intermediate layer is not utilised in the construction of either USGA or perched water table profiles. The need for such a layer is determined by a sand and gravel compatibility test which is based on particle size distribution results and calculations which will be discussed in part two of this article (ATM Vol 19.4).

Drainage aggregate should conform to all Australian Standards tests for weathering abrasion and mechanical stability. 5mm or 7mm blue metal crushed basalt rock is most commonly used for the gravel drainage layer which is installed to a depth of 100mm and mirrors the finished levels.

### SAND SELECTION

Sand selection is one of the most crucial points to get right, but unfortunately this is where many mistakes take place. There are a range of tests conducted on sand samples to determine their suitability for use in a sand-based profile; understanding these tests and the subsequent results is discussed below.

The process for selecting suitable sand initially involves samples being collected and tested by a NATA-registered laboratory, licenced for the appropriate tests. It is important at this stage to understand the tests and methodologies being undertaken. Quarries will regularly have sand samples tested to monitor their production.



The starting point for drainage design in any sports turf construction should be from the outlet point (lowest point) back to the highest grade point to ensure there is adequate fall available

TABLE 1: COMPARISON BETWEEN A CONVENTIONAL SPECIFICATION AND USGA SPECIFICATION

Particle size distribution (% retained)	Sieve (mm)	Conventional Specification	USGA Specification	
Fine Gravel	>2.00	0	< 3	total particles
Very Coarse Sand	1.00 - 2.00	< 10		< 10
Coarse Sand	0.50 - 1.00	< 20	total particles	
Medium Sand	0.25 - 0.50	40 - 60	> 60	
Fine Sand	0.15 - 0.25	< 30	< 20	
Very Fine Sand	0.05 - 0.15	< 10	< 5	total particles
Silt plus Clay	<0.05	< 5	< 5	< 10
<b>Physical characteristics at 30cm tension</b>				
Bulk Density (g/cm³)		1.2 - 1.6	1.2 - 1.6	
Total Porosity (%V/V)		35 - 55	35 - 55	
Volumetric Water (%V/V)		15 - 25	15 - 25	
Aeration Porosity (%V/V)		15 - 30	15 - 30	
Hydraulic conductivity (mm/hr)		> 150	> 150	





◀ **Varying specifications or omitting vital components without a full understanding of the ramifications, places the whole construction process at risk of failure**



**It is important that consideration be given to designing a drainage system that can cope with major rainfall events. Photo: Geofabrics Australia**

Often we see particle size analysis conducted using a dry sieve method. This does not give a true result as clay and silt particles can stick to the larger particles and do not register in the results. The percentage of clay and silt particles contained in a sample can have the greatest bearing on the performance of a sand profile.

Results often vary by as much as 10-15 per cent in the clay and silt fractions when comparing the same sample under wet vs dry sieve analysis. A wet sieve analysis should always be used to determine the particle size distribution of a sand sample that is being considered for use in sports turf construction.

If an initial sample conforms to specification, the next step is to arrange stockpiling of material at the quarry for your project. Dependent on the size of the project, sand is generally stockpiled in 500 tonne lots. In large projects a detailed quality control programme at this stage is essential. Individual stockpiles should be numbered and samples collected for testing. If stockpiles are tested and meet the set specification they can then be approved for delivery to the site.

This process should begin long before construction begins to ensure adequate time is allowed for thorough testing. Even for a small construction project such as a single golf green, this process should also be followed. A thorough quality control process should be mandatory.

Both the USGA and conventional specifications are based on a set of criteria that ensures predictable performance of the rootzone. Moving outside of these specifications and the confidence intervals set by the USGA, places the construction at risk of poor performance or even failure. There are a range of factors that ultimately influence the physical performance of a sand including;

- **Particle size distribution:** Particle size distribution and even particle shape of a sand will affect the bulk density, hydraulic conductivity, aeration porosity and volumetric water content of a sand profile. Sands with the highest percentage of particles in the medium sand range (0.25 to 0.5mm) are most desirable. Sands with a broader distribution of coarse sand and very fine sand may have a greater tendency

to compact, with the finer particles able to fill the voids between the larger particles reducing total porosity. This will in turn have a negative effect on the bulk density, hydraulic conductivity, aeration porosity and volumetric water content.

- **Bulk density:** Bulk density could be described as a measure of a soil's tendency to compact – the higher the bulk density reading, generally the lower the total porosity. This can also have an influence on a soil's hydraulic conductivity.
- **Total porosity:** Total porosity is the sum of the total pore spaces within a sand profile made up by aeration porosity (large pore spaces) and volumetric water (small pore spaces). The particle size distribution generally influences both aeration porosity and volumetric water. A sample that has a higher percentage of coarse and very coarse sand will tend to have higher aeration porosity and lower volumetric water content. This is due to the greater percentage of large pore spaces. On the other hand, a sample with a higher percentage of fine and very fine sand will tend to have higher volumetric water content and lower aeration porosity due to the higher percentage of small pore spaces.
- **Hydraulic conductivity:** Hydraulic conductivity is a measure of the volume of water (mm/hr) that can pass through a saturated soil profile. There are several methods that can be used to assess hydraulic conductivity, sometimes offering differing results dependent on the method of compaction used. The preferred method to gain uniform compaction of a sample is that where the soil and entire container is dropped vertically onto a flat surface from a measured height. Saturated hydraulic conductivity is usually assessed after 16 and 32 drops with both usually taken into account to gauge the level of compaction and change in bulk density.

## CONCLUSION

There are multiple components that make up a perched water table specification, all of which can have a bearing and need to be taken into account to provide a successful outcome. Varying specifications or omitting vital components without a full understanding of the ramifications places the whole construction process at risk of failure.

While the initial cost of construction may seem expensive, if constructed and maintained properly a perched water table can last for many decades and may only need re-surfacing rather than a complete reconstruction. This may help to make construction costs more palatable, when compared to the cost and hassle of a complete reconstruction due to the selection of inferior materials or poor quality control.

In part two of this article we will examine how a perched water table works, moisture release curves, organic amendments and compare several sand test results in order to better understand sands used for sports turf construction. 🌱





# 33rd Australian Turfgrass Conference and Trade Exhibition

**Twin Waters**  
**June 25-29 2017**



## Many Paths, One Goal Conference Guide





## WELCOME TO NOVOTEL TWIN WATERS

**O**n behalf of my fellow AGCSA Directors and the AGCSA staff, I would like to welcome you to the 33rd Australian Turfgrass Conference and Trade Exhibition being held on the beautiful Sunshine Coast. As it was in 2013, the fantastic Novotel Twin Waters Resort is to be our home for the week and I sincerely thank everyone for making the effort to attend.

In supporting the theme this year of 'Many Paths, One Goal', a diverse range of seminars based around member feedback will be presented to delegates by a just as diverse range of speakers.

The continuing popularity of the Monday workshops, which are presented with thanks to **AGCSA Gold Partner Jacobsen**, will this year see **Professor Mike Richardson** from the University of Arkansas, USA, along with **John Neylan** and Avondale Golf Club superintendent **Dave Warwick** conduct the agronomic workshop 'Understanding the effects of shade'.

**Lee Strutt**, who is the golf course manager at the Royal Automobile Club in the UK, will present the other Jacobsen workshop which will be the management based 'Budget building for golf course management'. Whichever seminar you attend, I am sure that you will gain plenty of information to take back to your turf facility.

Continuing on with the success of the smaller Wednesday workshops last year in Melbourne, specialised workshops are again being offered at Twin Waters with some very interesting topics on the programme. The remainder of the week also promises to be extremely educational with both Mike and Lee presenting further sessions. Combined with our fine contingent of Australian speakers there will be much to be gleaned.

Once again sold out, the annual trade exhibition will see a broad range of turf related companies present. I encourage all delegates to take the time to visit all booths and take advantage of any trade 'specials' that may be on offer. The AGCSA thanks

the trade for their continued and valued support and as always we encourage delegates to support those companies that support us.

Special mention must be given to conference principal sponsor **Golf Australia** and major partners **Toro, Amgrow, Jacobsen, Syngenta, Nuturf** and **John Deere Golf**. The AGCSA also wishes to acknowledge industry partners **STA Australia**, the **Society of Australian Golf Course Architects** and the **Australian Golf Industry Council** for their support of the turf industry's premier event.

For some of us the conference week will begin at Pelican Waters Golf Club near Caloundra where the **2017 AGCSA Golf Championship**, proudly sponsored by **AGCSA Platinum Partner Toro**, will be hosted. A Greg Norman-designed course, I am sure it will provide a great test for all those who have registered – who will carry off the **Toro Red Jacket** this year? – and we thank superintendent **Troy Muir** and his crew for presenting the course to contest this wonderful event on.

A turf conference would not be complete without our famous social activities and once again we kick things off with the **Syngenta President's Dinner** where we will honour our 2017 AGCSA and STA Award winners. At the other end of the week, we are also delighted to welcome **AGCSA Bronze Partner Simplot Partners** who have put their name to the **Farewell Bash** this year, so make sure you get along on Thursday and relax and unwind after a busy week.

Twin Waters 2017 promises everything you could want in a conference so please enjoy the week. The wonderful staff at the AGCSA and my fellow AGCSA directors will be on hand to assist you with any conference queries you have during the week.

**BRETT BALLOCH**  
PRESIDENT, AGCSA  
SUPERINTENDENT, ANGLESEA GC

### REGISTRATION DESK OPENING TIMES

**Sunday:** 2pm-4pm  
**Monday:** 9am-4pm  
**Tuesday:** 8am-4pm  
**Wednesday:** 8am-3pm  
**Thursday:** 8am-2.30pm

## 33RD AUSTRALIAN TURFGRASS CONFERENCE AND TRADE EXHIBITION

**I**n 2013 the AGCSA took the annual Australian Turfgrass Conference to the Sunshine Coast for the first time. It proved to be such a popular venue that four years later the turf industry's largest gathering makes a welcome return to Novotel Twin Waters from 26-29 June. After the wintry climes of Melbourne last year, delegates will no doubt enjoy being back in the warmth of the Sunshine State and all is in readiness for what should be another great week of personal development and networking.

The **2017 Australian Turfgrass Conference and Trade Exhibition** will offer a dynamic learning environment interspersed with great networking opportunities and, as always, plenty of fun.

International and local speakers will deliver up to date, thought-provoking insight into a broad range of issues and technologies relevant to the modern turf professional no matter what type of facility you manage. Sessions focused on areas as diverse as business skills, new technologies and effective communication sit alongside pressing issues such as the challenge of managing *Poa annua*, the increasing prevalence of herbicide resistance, new warm-season grass choices and advances in renovation techniques.

The AGCSA is absolutely delighted to welcome to Twin Waters conference keynote presenters **Prof. Mike Richardson** (University of Arkansas, USA)



and **Lee Strutt** (Royal Automobile Club, UK). Both gentlemen have contributed articles elsewhere in this edition of ATM and within those we have profiled each of them as well as given a precis of their presentations scheduled during conference week.

There is very much an HR and management focus to this year's education sessions and this has been in response to feedback from past conferences and also in light of what has been a challenging time recently for superintendents and turf managers around the country. Having recently conducted the joint AGCSA/PGA of Australia workshops on mental health and wellbeing and effective modern leadership, HR advisor **Vicki Crowe** will discuss your rights and obligations under the Fair Work Commission when it comes to dismissal.

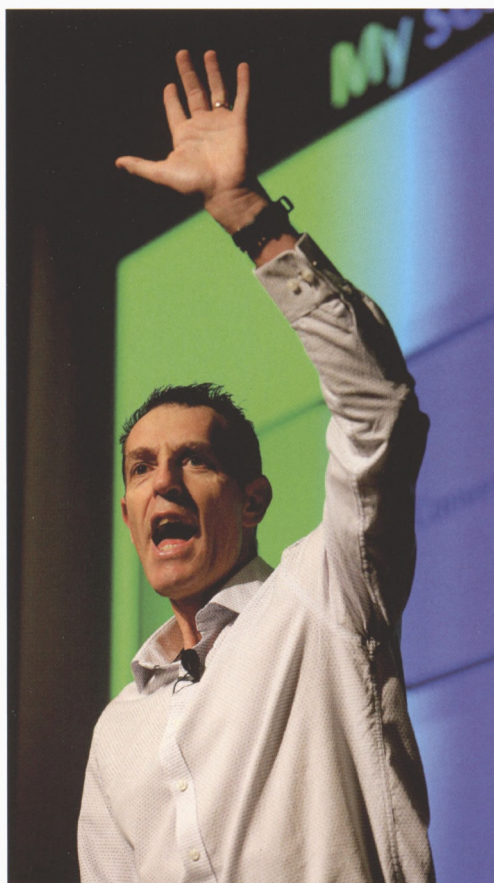
The AGCSA is also excited to welcome back **Steve Herzberg** who was a big hit at last year's conference in Melbourne with his 'Charisma, conversations and communications' session. Owner and managing director of NRG Solutions, Herzberg is regarded as one of Australia's most dynamic leadership and presentation skills coaches. He works with a broad range of clients including some of the leading golf clubs in the country.

Herzberg will feature prominently at Twin Waters, bringing his engaging and entertaining style which was well received in 2016. In addition to his Plenary session on Tuesday, he will conduct two workshops on Wednesday – 'Presenting with confidence' (8.30am-12pm) and 'High performing teams' (1.30pm-5pm).

Herzberg will encourage you and your team to strive for greater results and believes that if the little things are done consistently and properly, the bigger things at a golf club will look after themselves. His sessions will assist you to understand how you can improve the way you communicate your message and will help you to build and develop stronger relationships across all levels of a golf club.

Other highlights that delegates should put on their list of must-attend sessions include:

- **Cricket Wicket Forum:** This two hour Sportsfield Stream forum features information for all those involved in cricket pitch preparation.



The session will include a look at the Wicket 101 Accreditation programme which has been designed to educate and support anyone working on turf wickets. Endorsed by Cricket NSW, this programme is growing each year and can be of benefit to all levels from weekend volunteers through to seasoned curators.

**Jarrold Bird** will look at wicket preparation at Queensland Cricket's impressive Allan Border Field facility, while **Jarrold Hill** will then look at some of the major ground reconstruction projects he has been involved with. (*Sportsfield Stream, Wednesday 28 June, 11am-1pm*)

- **Renovation tricks and techniques:** Chaired by AGCSA environmental agronomist **Bruce Macphee**, various turf managers will explain why they choose different renovation methods

Energetic and charismatic presenter **Steve Herzberg** will feature prominently at Twin Waters

**Amgrow**

**JACOBSEN**  
A Textron Company

**JOHN DEERE**  
GOLF

**NUTURF**  
SPECIALISTS PROVIDING SOLUTIONS

**syngenta**

**TORO**

## AGCSA Claude Crockford Environmental Award

Recognising golf course superintendents' commitment to sustainable land management. The award will be presented at the Syngenta President's Dinner on June 26.



Scan the QR code to see last year's winner

Syngenta Australia Pty Ltd, Level 1, 2-4 Lyonpark Road, Macquarie Park NSW 2113. ABN 33 002 933 717.

**syngenta**





It is the second time in four years that Novotel Twin Waters Resort on the Sunshine Coast has hosted the Australian Turfgrass Conference



PGA of Australia HR advisor Vicki Crowe will look at the rights of employees and employer obligations under the Fair Work Commission

and the benefits they get from each. Whether greens, sportsfields or wickets, this session will look at techniques such as dusting, air blasting, coring and tining. (*Agronomy Stream – Thursday 29 June, 8.30am-10am*)

- **New technology:** Nano Bubbles Technologies is an Australian company that has developed ground-breaking technology that can dramatically increase the amount of oxygen in water. Their technology allows for up to 250 million bubbles to be injected into every millilitre of water. The benefits of this for turf managers will be discussed in this session by **Prof. Mike Richardson** and **Kevin Finn** and will include results of an initial trial carried out at Avondale Golf Club in Sydney. (*Golf Stream – Wednesday 28 June, 9.50am-10.30am*)

- **Performance and staff management:** Performance management is a much broader concept than just performance appraisals or a disciplinary process. It aims to improve organisational, functional, team and individual performances. Effective performance management measures the progress being made towards set business objectives. It does so by planning, establishing, monitoring, reviewing and finally evaluating how an individual or team is performing. In this workshop, conducted by HR expert **Susanne Macphee**, delegates will be given the tools to enable them to effectively manage, motivate and appraise staff as well as the best way to handle your own annual review. (*Management Stream – Thursday 29 June, 8.30am-10am*)

- **Working to succeed not survive - Achieving success in the Australian turf industry:** Reflecting on many of the current challenges faced by the industry, **Jeff Blunden** will outline the realities turf managers need to be accepting and the subsequent actions they need to be adopting in order to be successful. The session will feature live interactive polling of delegates to capture the views of the room which will make for an interesting final session at this year's conference. (*Management and Agronomy Streams - Thursday 29 June, 2pm-3.30pm*)

## KEY CONFERENCE EVENTS

### 2017 TORO AGCSA GOLF CHAMPIONSHIPS

Sunday 25 June, 12 noon shotgun  
Pelican Waters Golf Club, Caloundra

### AGCSA JACOBSEN MONDAY WORKSHOPS

Monday 26 June, 10am-3pm  
Mudjimba Rooms, Novotel Twin Waters Resort (NTWR)

### SYNGENTA PRESIDENT'S DINNER

Monday 26 June, 6.30pm pre-dinner drinks for a 7pm start

Mudjimba Ballroom, NTWR   
Dress code: Business formal (jacket optional)

### 2017 AUSTRALIAN TURFGRASS CONFERENCE TRADE EXHIBITION DELEGATE OPENING

Tuesday 27 June, 4pm-5.30pm (for fully registered conference delegates only)

Wandiny Room, NTWR

### 2017 AGCSA ANNUAL GENERAL MEETING



Wednesday 28 June, 7.30am (members only)  
NTWR (check conference registration desk for room confirmation)

### 2017 AUSTRALIAN TURFGRASS CONFERENCE TRADE EXHIBITION

Wednesday 28 June (9am-5pm) and Thursday 29 June (9am-2pm)

Wandiny Room, NTWR. Free entry.

### TORO FUNCTION

Wednesday 28 June, 5pm  
Aqua Bar, NTWR

### SIMPLOT PARTNERS FAREWELL BASH

Thursday 29 June, 6pm-8pm  
Lily's on the Lagoon, NTWR

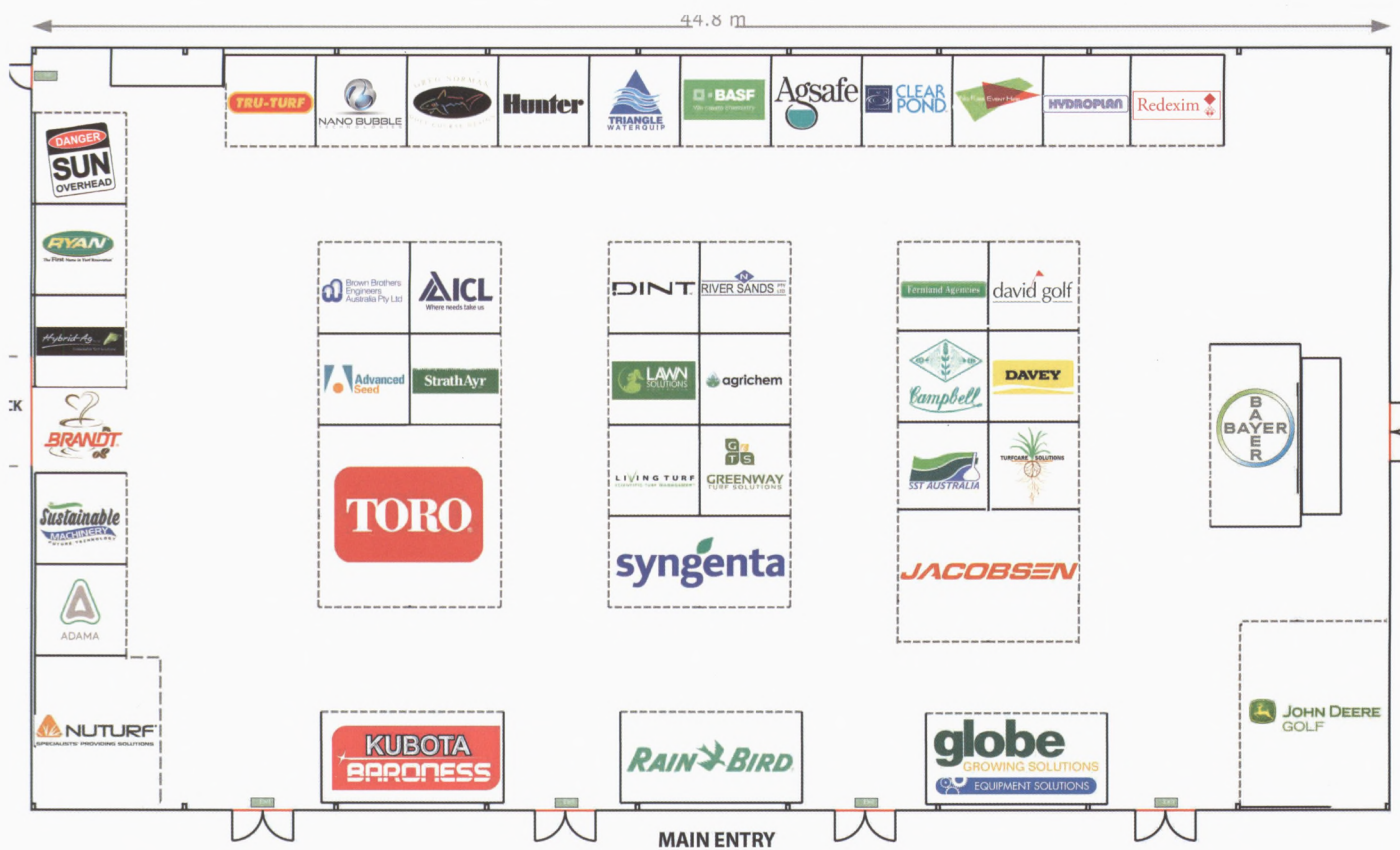
### AGCSA 2017 FUTURE TURF MANAGERS' INITIATIVE

Thursday 29 June (9am-5pm) and Friday 30 June (8.30am-3.30pm)

Various rooms, NTWR (FTMI participants will be sent an email confirming programme details)







## 33RD AUSTRALIAN TURFGRASS CONFERENCE TRADE EXHIBITION

### MAJOR CONFERENCE SPONSORS

Booth	Company
1	Nuturf Australia
19	John Deere Golf
23	Toro Australia
28	Syngenta Australia
35	Jacobsen

### AGCSA GOLD PARTNERS

21	Rain Bird Australia
----	---------------------



### AGCSA SILVER PARTNERS

18	Bayer
20	Globe Growing Solutions
22	Kubota/Baroness



### AGCSA BRONZE PARTNERS

9	Greg Norman Golf Course Design
10	Hunter Industries
24	Advanced Seed
25	Brown Brothers Engineers Australia
26	ICL
31	Dint Golf Solutions
39	David Golf & Engineering



Exhibition times: Wed 28 June (9am-5pm) and  
Thurs 29 June (9am-2pm). Exhibition floorplan  
correct at time of publication

### EXHIBITORS

Booth	Company
2	Adama Australia
3	Sustainable Machinery
4	Hybrid-Ag
5	Powerup Lawncare Products
7	Tru-Turf
8	Nano Bubble Technologies
11	Triangle Waterquip
12	BASF Australia
13	Agsafe
14	Clearpond
15	No Fuss Event Hire
16	HydroPlan
17	Redexim
27	StrathAyr Turf Systems
29	Living Turf
30	Lawn Solutions Australia
32	River Sands
33	Agrichem
34	Greenway Turf Solutions
36	SST Australia
37	Colin Campbell (Chemicals)
38	Fernland Agencies
40	Davey Water Products
41	Turfcare Solutions

Coffee cart: Brandt





# SUNDAY

2pm - 4pm Registration

12pm - 4.15pm

2017 Toro AGCSA Golf Championships  
Pelican Waters Golf Club

**TORO**

4.30pm - 8pm

Pre-dinner drinks and canapes followed  
by Toro Golf Presentation Dinner

# MONDAY

**JACOBSEN**

AGCSA Jacobsen Workshops

10am - 3pm (lunch 45 minutes)

Understanding the effects of shade in  
high maintenance turfgrass systems

- Prof. Mike Richardson, John Neylan and  
David Warwick

Budget building for course management

- Lee Strutt

Partners Morning Tea 10am-12pm

6.30pm - 10.30pm

SYNGENTA PRESIDENT'S DINNER -

MUDJIMBA BALLROOM

**syngenta**

# TUESDAY

PLENARY - MUDJIMBA ROOM

8am - 8.20am

Welcome to Country, 2017 AGCSA  
Award Winners and AGCSA Update -  
Brett Balloch

8.20am - 9.20am - Steve Herzberg

9.20am - 10am

Safety - Think it, talk it, work it -  
Ben Gibson

10am - 10.45am - Morning Tea

10.45am - 11.25am

2017 Ryder Cup - Lee Strutt

11.25am - 12.15pm

Building your team - Employing and  
retaining staff - Susanne Macphee

12.15pm - 1pm

HR - Your rights and obligations under  
the Fair Work Commission - Vicki Crowe

1pm - 2pm - Lunch

2pm - 3.30pm Turfgrass Talkback -

Prof. Mike Richardson, Lee Strutt, Bruce  
Macphee and Matt Roche

4pm - 5.30pm - **TRADE OPENING**

# WEDNESDAY GOLF

ROOMS TO BE CONFIRMED - CHECK  
CONFERENCE REGISTRATION DESK

7.30am - 2017 AGCSA AGM

8.30am - 9.10am

Kauri Cliffs, NZ - 2016 AGCSA Claude  
Crockford Environment Award - Andy Wood

9.10am - 9.50am

Greenkeeping in the UK - Lee Strutt

9.50am - 10.30am

Nanotechnology - The benefits of  
increasing oxygen in water - Prof. Mike  
Richardson and Kevin Finn

10.30am - 11am - Morning Tea

11am - 1pm

Warm-season grasses - Couch vs zoysia -  
Gavin Rogers, Dr Don Loch, Matt Roche and  
Chris Chapman

1pm - 2pm - Lunch and Trade Show

2pm - 3.30pm

Afternoon Delights - Rooms to be confirmed

● Course budgets - Stewart Fenton

● Foliar fertilisation of high maintenance  
golf and sportsfields - Prof. Mike  
Richardson

3.30pm - 5pm - Afternoon Tea & Trade Show

From 5pm onwards **TRADE HOSTED EVENTS**

**PLEASE NOTE: SESSIONS, TIMES AND SPEAKERS  
LISTED HERE WERE CORRECT AT THE TIME OF  
GOING TO PRINT. ANY CHANGES TO THE  
PROGRAMME WILL BE UPDATED VIA THE  
CONFERENCE SMARTPHONE APP**

# WEDNESDAY SPORTSFIELD

ROOMS TO BE CONFIRMED - CHECK  
CONFERENCE REGISTRATION DESK

8.30am - 9.10am

Education and career opportunities

- Bruce Davies, Luke Cooney, Dave Thomson

9.10am - 9.50am

Preparing for the 2018 Gold Coast  
Commonwealth Games - Jarrod Hill

9.50am - 10.30am

Rising from the ashes: Wesley College fire  
recovery - Rob Savedra

10.30am - 11.00am - Morning Tea

11am - 1pm

Cricket Wicket Forum

● Wicket 101 Accreditation Program -

Graeme Logan

● Preparing wickets at Allan Border Field -

Jarrod Bird

● Major sportsfield reconstruction  
projects - Jarrod Hill

1pm - 2pm - Lunch and Trade Show

2pm - 3.30pm

Afternoon Delights - Rooms to be confirmed

● Course budgets - Stewart Fenton

● Foliar fertilisation of high maintenance  
golf and sportsfields - Prof. Mike  
Richardson

3.30pm - 5pm

Afternoon Tea and Trade Show

From 5pm onwards

**TRADE HOSTED EVENTS**





## THURSDAY AGRONOMY

ROOMS TO BE CONFIRMED - CHECK  
CONFERENCE REGISTRATION DESK

8.30am - 10am

Renovation tips, tricks and techniques -  
Tining, coring, dusting and airblasting -  
Bruce Macphee

10am - 11am

Morning Tea and Trade Show

11am - 12.30pm

Using new technology - Drones  
- Tony Gilbert

12.30pm - 2pm

Lunch and Trade Show

2pm - 3.30pm

Working to succeed, not survive -  
Achieving success in the Australian turf  
management industry - Jeff Blunden

6pm - 8pm

FAREWELL BASH -  
LILY'S ON THE LAGOON



## THURSDAY MANAGEMENT

ROOMS TO BE CONFIRMED - CHECK  
CONFERENCE REGISTRATION DESK

8.30am - 10am

Performance and staff management -  
Appraisals, reviews and motivation  
- Susanne Macphee

10am - 11am

Morning Tea and Trade Show

11am - 12.30pm

Mastering Excel - Using and formulating  
spreadsheets - Rod Ebbage

12.30pm - 2pm

Lunch and Trade Show

2pm - 3.30pm

Working to succeed, not survive - Achieving  
success in the Australian turf management  
industry - Jeff Blunden

6pm - 8pm

FAREWELL BASH -  
LILY'S ON THE LAGOON



## WORKSHOP MANAGEMENT

WEDNESDAY - LILY'S ON THE LAGOON

8.30am - 12pm

Presenting with confidence

- Steve Herzberg

1pm-2pm Lunch and Trade Show

1.30pm - 5pm

High performing teams - Steve Herzberg

## WORKSHOP AGRONOMIC

WEDNESDAY - ROOM TO BE CONFIRMED

8.30am- 10.30am

Understanding herbicide resistance

- Dr Peter Boutsalis and Jyri Kaapro

10.30am - 11am - Morning Tea

11am - 1pm

Poa annua management workshop

John Neylan, Dr Peter Boutsalis, Jyri Kaapro

1pm-2pm Lunch and Trade Show

2pm - 3.30pm

Poa annua management workshop cont...

- John Neylan, Dr Peter Boutsalis, Jyri  
Kaapro

3.30pm - 5pm

Afternoon Tea and Trade Show

## FTMI

### AGCSA FUTURE TURF MANAGERS' INITIATIVE

Australia and New Zealand

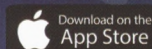
Thursday - 9am - 5pm

Friday - 8.30am - 3.30pm



## GreenCast Turf App

Download today and come see  
our team at the **Syngenta stand**  
at the AGCSA Conference 2017.



Syngenta Australia Pty Ltd, Level 1, 2-4 Lyonpark Road, Macquarie Park NSW 2113. ABN 33 002 933 717.

**syngenta®**



## GRADUATE AWARDS A SPRINGBOARD FOR SUCCESS

Every year the Australian Turfgrass Conference recognises the industry's outstanding turf management apprentices. Each state superintendent and Sports Turf Association conducts its own graduate award programmes with the winners going on to represent their state in the final of the AGCSA Graduate of the Year Award and STA Australia National Sports Turf Graduate of the Year Award.

Both awards are proudly presented in conjunction with AGCSA Platinum Partner Toro Australia and provide the winners with a once in a lifetime education opportunity to give their career a massive kick-start.

The life of a turf management apprentice can be a thankless one at times, but as this year's field of finalists demonstrate, with a little bit of hard work and commitment, not to mention a fair helping of skill and nous, the wonderful opportunities that the industry can afford are there for the taking.

Being nominated for the AGCSA Graduate of the Year Award carries a high level of credibility. As a reward for making the national final, each state winner receives complimentary registration to attend the 33rd Australian Turfgrass Conference at Twin Waters which enables them to attend education sessions, visit the trade show and meet with turf managers from across the country. Judging takes place in Brisbane on the eve of the conference with the finalists required to give a 15 minute presentation to an independent panel of judges before being asked a series of general and turf management questions.

The national winner will be enrolled in the University of Massachusetts (UMASS) Winter School for Turf Managers in the USA. All education, travel, accommodation and living expenses will be paid during this eight-week period and they will also attend the Golf Industry Show and visit various Toro facilities across the US.



2016 AGCSA Graduate of the Year winner William Koopmans, from Ballarat Golf Club in Victoria, is the perfect example of how the award can be a career-changer. Knowing he was going to be travelling to the US as part of his award prize, prior to his attendance at UMASS in January he also decided to enrol in The Ohio Program. Once his studies had been completed, he joined the crew at Liberty National Golf Club in New Jersey which just so happens to be hosting the 2017 Presidents Cup in late September/early October. Koopmans, who is interning there with fellow Aussie Brad Foster (Canberra), has been at the course since late February and will be among the crew, guided by superintendent Greg James, to prepare the course for the major tournament.

"The UMASS experience was fantastic," says Koopmans. "It was a very intensive six weeks and we were taught a variety of different topics by 20 teachers who were all very knowledgeable and dedicated. The week in Orlando at the Golf Industry Show was also extremely beneficial and I had an absolute



**2016 AGCSA Graduate of the Year winner William Koopmans at Liberty National Golf Club (top) and at Ohio State University (above)**

ball checking out the GCSAA conference and learning lots about new equipment coming onto the market.

"I'm all settled in at Liberty National now and can't wait for the Presidents Cup in September. I'm learning new tricks of the trade every day and look forward to bringing them back and putting them into practice in Australia."

Who knows, one of the following finalists may be following in Koopmans' footsteps after this year's Australian Turfgrass Conference...

## 2017 AGCSA GRADUATE OF THE YEAR



**GCSAQ**

**Lachlan Weston**

**Howeston GC**

2017 GCSAQ representative Lachlan Weston was just 12 when he got his first taste of working on a golf course, helping out his grandfather and father at their local course after school and during the holidays. That firmed into a desire to be a greenkeeper and now the 21-year-old finds himself at Howeston Golf Course in Brisbane's south east.

During his time there Weston has been lucky enough to gain enormous amounts of knowledge on the course, from the redesign of greens and fairways to installation of irrigation, drainage and maintenance of machinery. He has also helped with the general running and maintaining of the course. Being a fourth generation family owned and run business, very few tasks are outsourced to contractors and most things are carried out in-house.

Weston's interest in golf has allowed him to participate in Howeston's annual Pro-Am for the





last five years. He is also a volunteer surf life saver and competes in surf boat rowing in the Australian Surf Rowers League. Weston's future goal is to gain more knowledge and experience in all aspects of sports turf management to allow the continued growth of Howeston Golf Course and improve his career prospects. Being involved in course preparations at a major golf tournament is also one of his long-term ambitions.



### GCSAWA

**Daniel Breadmore**  
**Mosman Park GC**

Originally hailing from Bridport in Tasmania, 29-year-old Daniel Breadmore started his career at Barnbogle Dunes in 2004 under then superintendent Danny Brown. Moving to Melbourne and then to Perth in 2010, he worked casually at the likes of Joondalup and Gosnells before moving to Hill View Golf Course in 2012 as a groundsman. It was here under former GCSAWA Apprentice of the Year Shaun Quinsee that Breadmore accepted an apprenticeship in 2014.

During his apprenticeship Breadmore took over the tough task of the irrigation technician role and thrived. Over a number of summers he fixed nearly 300 retic breaks and kept the course looking green. In 2015 he volunteered at the Emirates Australian Open at The Australian Golf Club and is hoping to return again in 2017.

In August 2016 Breadmore applied for and successfully gained the assistant superintendent role at Mosman Park Golf Club under superintendent Shane Baker. Away from work Breadmore is a 5 handicapper in golf and coached his local AFL side to a grand final appearance last season.



### NSWGCSA

**Jake Needs**  
**Bermagui CC**

Bermagui Country Club and course superintendent Dave Thomson have a knack for nurturing fine apprentices and current NSWGCSA Vince Church Graduate of the Year recipient Jake Needs is no exception. The 20-year-old is currently assistant superintendent at Bermagui and it has been his persistence and dedication to the job over the past four years that have seen him rewarded with such a senior role early in his career.

Leaving school after Year 10, becoming a sports turf manager was something Needs had always wanted to do, especially as he was very active in sport and played golf from an early age. During the school holidays Needs would spend most of his time at the golf course and would wait until Thomson drove past and ask him if he could help out with any work on the course. Thomson duly offered him a job in 2012 and since then Needs hasn't looked back.

After he completed his apprenticeship last September, Thomson elevated Needs to the

assistant's role. One thing Needs likes about the role is having that extra responsibility as well as teaching apprentices what he has learnt so far. Bermagui currently has a staff of seven with four of those apprentices.



### SAGCSA

**Matt King**  
**Flagstaff Hill GC**

The last of the state finalists to be announced, 21-year-old SAGCSA Graduate of the Year Matthew King has been employed at Flagstaff Hill Golf Club for a little over three-and-a-half-years. A country lad, having grown up on his parent's farm at Ashbourne south of Adelaide, King chose to do work experience at Flagstaff Hill while in Year 11 which led to his eventual employment upon leaving school.

Flagstaff Hill superintendent Aaron Kelly believes King's growth over the past few years has been outstanding and he continues to try and learn as much about the industry as he can as he works towards his ultimate goal of one day becoming a course superintendent. In his life away from the golf course King plays senior football for Meadows and softball for four different teams.



### TGCSA

**Brad Palmer**  
**Kingston Beach Golf Club/Llanherne Golf Club**

After many years already working in the horticulture industry, Brad Palmer started in sports turf management in 2014 as a trainee greenkeeper at Kingston Beach Golf Club south of Hobart. As part of a small team working on an 18-hole course, Palmer had no option but to learn the ropes quickly and was exposed to all facets of course management including machinery maintenance and irrigation work.

Some 18 months into the traineeship, Palmer then landed himself the superintendent role at Llanherne Golf Club, one of Tasmania's most popular nine-hole courses designed by Peter Toogood and just over the fence from Hobart International Airport. It proved to be a challenging first few months for Palmer as not only did he start during the height of summer, but Tasmania was also experiencing a period of record-breaking drought.

Managing to survive that first summer, when things settled down Palmer managed to finish his studies and gain his qualifications. Now 28, Palmer has been at Llanherne for 18 months where he continues to learn and develop leadership skills being in charge of 10-15 volunteers. His primary focus at the present time is to improve the golf course through a combination of more aggressive renovation practices to reduce high thatch levels in greens, improving water efficiency by upgrading the irrigation system and cleaning up tree lines to promote quicker play.








**VGCSA**  
**Joel Manson**  
**Anglesea GC**

A two-week work experience stint at Box Hill Golf Club in Melbourne was the catalyst for VGCSA Graduate of the Year for 2017 Joel Manson. The skills he gained during that fortnight would ultimately lead to him gaining an apprenticeship at Anglesea Golf Club.

As part of a small crew of five, Manson has been involved in a number of projects at Anglesea, the most noticeable being the construction of a new driving range. Manson (22) completed his studies through The Gordon TAFE in east Geelong where he was taught by Greg Ollis, Paul Deller and Chris Deppeler. During the course Manson went on a number of excursions, visiting the likes of Royal Melbourne Golf Club, AAMI Park and the Black Rock Water Reclamation Plant which were all eye-openers. Manson aims to complete his Diploma in Turf Management and is also keen to undertake a placement through The Ohio Program.

## 2017 STA AUSTRALIA SPORTS TURF GRADUATE OF THE YEAR AWARD



**STA ACT**  
**Michael Cody**  
**Bomaderry Bowling Club**  
**Education: CIT**

Cody worked for four years at Queanbeyan RSL Memorial Bowling Club before recently taking a position at Bomaderry Bowling Club. He enjoys seeing results after a successful renovation season and loves working outdoors.



**STA NSW**  
**Liam Tormey**  
**Proturf Australia**  
**Education: Ryde TAFE**

Working with Proturf Australia, Tormey started his career in sports turf management at St Ives Bowling Club but was then moved to Brush Park Bowling Club to assist in getting the surface up to championship quality. His work at Brush Park assisted in extending the maintenance contract and he has maintained two greens at championship standard on a low budget. Tormey has a keen interest in turfgrass science.



**STA SA**  
**Bridget Patterson**  
**SA Cricket Association**  
**Education: Maxima**

Patterson has worked at SACA for three years and loves working outside every day. She enjoys the satisfaction of preparing pitches for games and presenting a ground for weekend matches and getting the feedback from the players and managers. She plans to complete a Certificate IV in Sports Turf Management.



**STA TAS**  
**James Di Saia**  
**Blundstone Arena (Cricket Tasmania)**  
**Education: TasTAFE**

Di Saia not only has completed his Certificate III in Sports Turf Management but also has a Certificate II in Horticulture. He is a full-time apprentice curator at Blundstone Arena where he works under Marcus Pamplin and enjoys the physical activity and mental agility required to work at Tasmania's premier stadium. "A work day is never the same because of the ever-changing weather and requirements of each event and always keeps you on your toes."



**STA VIC**  
**Joseph Bolton**  
**Wodonga & District Turf Club**  
**Education: Wodonga TAFE**

Bolton's introduction to sports turf management came about when undertaking a TAFE course as a landscaper where he took a keen interest in the turf industry. He jumped at the chance to work at Wodonga Turf Club where he has been given the opportunity to increase his level of responsibility at work and is currently second in charge. Bolton is also currently undertaking the Diploma in Sports Turf Management.



**STA WA**  
**Jason Kirkwood**  
**West Coast Turf**  
**Education: South Metropolitan TAFE**

Kirkwood has turf in his blood as the son of a turf farmer, but over the years has worked in a variety of different positions including landscaping and overseas at Bragg Creek Golf & Country Club in Alberta, Canada. Since 2012 Jason has been the turf manager at West Coast Turf and he enjoys working with clients to create a result that best suits the local conditions. He has secured some large projects, whilst competing against much larger companies, including construction of a sub-soil at Elizabeth Quay that is able to handle heavy machinery. 🌱

## PAST AGCSA AND STA GRADUATE OF THE YEAR WINNERS

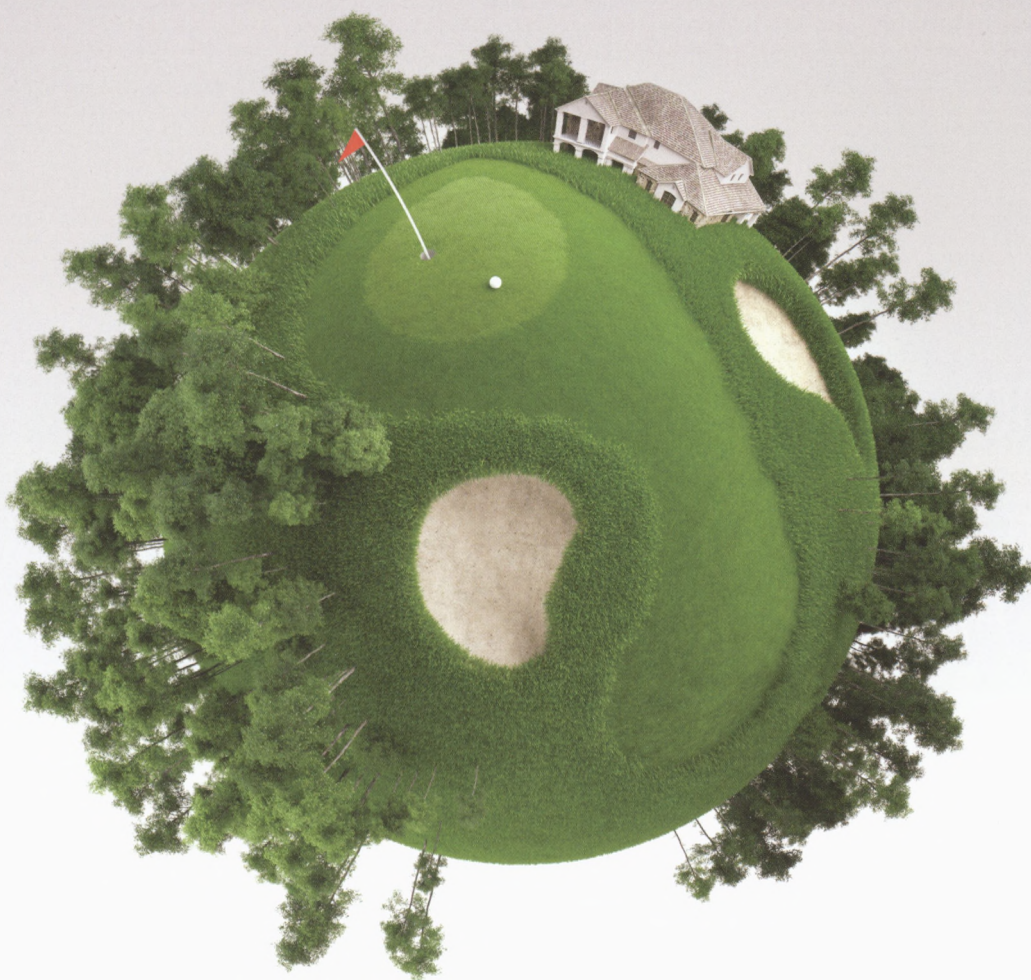
### AGCSA

- 2016** William Koopmans (Ballarat GC, Vic)
- 2015** Alex Smith (Royal Military College GC, ACT)
- 2014** Ethan Bell (Wangaratta GC, Vic)
- 2013** Luke Jorgensen (Federal GC, ACT)
- 2012** Dave Canterbury (Kiama GC, NSW)

### STA

- 2016** Kurt Dillon (Green Options, NSW)
- 2015** Grant Woolley (City of Launceston, Tas)
- 2014** Luke Cooney (Hale School, WA)
- 2013** Andrew Spicer (Wyong Shire, NSW)
- 2012** Rory Bairnsfather-Scott (WACA, WA)





# A Green Links™ World

Perfectly green turf. Year-round. In any climate.

**SENSIPRO'S GREEN LINKS™** turf colorant makes it possible. Green Links new long-lasting pigment technology enhances your turf perfectly to any shade of green you need and protects it from harsh conditions:

- Extensive coverage rates keep you in the green
- Reduce or eliminate costly over seeding, fertilizers and irrigation
- Superior UV protection and weather-fast performance
- Highly effective on tees, greens and fairways for more playable rounds

Don't settle for less. Go with the pro. **SENSIPRO™**



Distributed in Victoria, South Australia  
and Tasmania by Oasis Turf,  
14 Sonia Street, Carrum Downs,  
Victoria, 3201  
Phone 03 9708 2911



Distributed in New South Wales  
and Queensland by Living Turf,  
2/17 Barclay Street, Marrickville,  
NSW, 2204.  
Phone 02 9517 9107



# The power of *Poa annua*



Respected  
ATM columnist

John Neylan

reviews the recent series  
of meetings held by golf  
course superintendents  
and turf industry experts to  
discuss herbicide-resistant  
*Poa annua*.

**Top: Herbicide resistance is an industry-wide problem. Player and club expectations may have to change in line with the superintendent's ability to control *Poa annua* as the chemical options become limited**

In November 2016 a group of golf course superintendents were invited by Huntingdale Golf Club superintendent Michael Freeman to a meeting to discuss the challenges of controlling *Poa annua* in warm-season grasses. Attendees came from Victoria, New South Wales and South Australia. Jyri Kaapro, from AGCSA Silver Partner Bayer, helped to facilitate the day and invited weed expert Dr. Peter Boutsalis from Plant Science Consulting (PSC) to attend.

Plant Science Consulting (<http://www.plantscienceconsulting.com.au/>) is an Adelaide based company specialising in herbicide resistance testing. The company was founded by Peter who has been involved in herbicide resistance for over 25 years, both in Australia and overseas. Peter now works as an independent agricultural consultant and for The University of Adelaide researching herbicide resistance. PSC offers a wide range of tests including herbicide resistance testing. Peter provided a level of expertise and information on herbicide resistance that most of us in attendance had not previously experienced.

The purpose of the meeting was to discuss the various control methods being used and the level of success (or otherwise) being achieved. The meeting highlighted several key issues;

- It was agreed by all parties that the post-emergent herbicide control options were not delivering the required performance.
- It was noted that up to 6-8 different products are being used either as a single product or in a tank mix at a range of rates. Anecdotal evidence is that performance is variable and inconsistent.
- Glyphosate has been trialled on dormant couch with some *Poa annua* plants exhibiting a high level of tolerance.

- Trials have been conducted using glyphosate and glufosinate-ammonium as a post-emergent option on dormant couch with some effect. It should be noted that a lot more trial work on tank mixes and different modes of action is required.
- It was noted by Dr. Boutsalis that the products may still be delivering 80-90 per cent control but due to the large *Poa annua* seed bank there is still a large reserve for potential weed re-establishment.
- Application technology and performance was discussed and how this impacts on the effectiveness of herbicides. Testing of spraying equipment to assess performance and coverage is strongly recommended.
- Perennial forms of *Poa annua* are considered to be the biggest issue where herbicide performance was poor.
- Weather conditions have an impact on herbicide efficacy, particularly when the plant is under stress. It was noted that under dry conditions herbicides are likely to perform at less than optimum.

## HERBICIDE RESISTANCE SCREENING

In terms of an action plan there were several points noted, however, step one was to determine whether there is a problem with herbicide resistance. To determine whether resistance is an issue, *Poa annua* plants were collected in Victoria, NSW and SA that had demonstrated herbicide tolerance and were sent for screening for herbicide tolerance/resistance by PSC.

There was an overwhelming response to sending samples with 32 *Poa annua* plugs received from the three states representing various locations



on the golf course (e.g. fairways, roughs, tees and surrounds). The seedlings were transplanted and once they were established they were sprayed with nine post-emergent herbicides at label rates (see Table 1 below).

**TABLE 1: HERBICIDES USED IN POA ANNUA RESISTANCE TESTING**

Chemical name (concentration)	Spraying rate per ha
Propyzamide (500g/L)	1.2L/ha
Rimsulfuron (250g/kg)	100g/ha
Trifloxysulfuron (100g/L)	15g/ha + BS 1000
Glyphosate (360g/L)*	500ml/ha
Bispyribac-Sodium (100g/L)**	1L/ha
Foramsulfuron (22.5g/L)	1.5L/ha
Iodosulfuron (100g/Kg)	150g/ha + Hasten
Endothal (175g/L)	1.5L/ha
Simazine (600g/L)*	2L/ha

\*Glyphosate and simazine were included because they have been used in *Poa annua* control trials. The use of these herbicides is not endorsed and have only been assessed for scientific interest.

\*\*Multiple applications applied

Following the initial application of herbicides and assessment of the degree of control, the surviving plants were trimmed and then prepared for a second herbicide treatment. On the advice of Dr. Boutsalis, the surviving plants were sprayed with 2-3 times the label rate (note: this was for scientific purposes only) of each product as a means of confirming whether the plants were herbicide resistant or just tolerant.

In the initial screening the following observations were made;

- There were a large number of plants exhibiting resistance to Group B herbicides.
- Of the Group B herbicides, foramsulfuron exhibited slightly more activity than rimsulfuron, trifloxysulfuron, bispyribac-sodium and iodosulfuron.
- Glyphosate was effective on some *Poa annua* populations but others are likely to be resistant.
- Propyzamide had little effect.
- Endothal had little effect. Dr. Boutsalis had tested herbicide-resistant *Poa annua* from a golf course eight years ago and plants survived at 16L/ha (Boutsalis and Preston, 2009).
- Resistance to simazine was also identified.

An observation of the surviving plants was made regarding the plant morphology where the greater the density of plants the less the control in some cases. This observation is consistent with field observations and the research undertaken by Neylan and Peart (2005). Additionally, plants that were larger were less affected by some herbicides. Dr. Boutsalis commented that "what we know from cropping is that spraying less dense populations at younger growth stages results in greater control than spraying older plants and dense populations and, as obvious as it sounds, the same is true on golf courses".

As simple as it seems, this is an important observation for any weed control strategy. There

is often an emphasis around using post-emergent herbicides when the plant is well-established whereas treating it as a seedling is going to provide greater control.

The results of the follow up treatments demonstrated that;

- Herbicide resistance is responsible for reduced efficacy of herbicides used for *Poa annua* control.
- High levels of resistance to most post-emergent herbicides confirmed.
- Foramsulfuron exhibits greater activity than other Group B herbicides (second most effective herbicide of those tested). Other Group B herbicides not effective.
- Propyzamide (Group K), simazine (Group C) and endothal (Group Z) ineffective due to resistance.
- Glyphosate effective but some resistance detected.

## FOLLOW UP STUDIES

Following these meetings, there are several initiatives being considered including;

- Increasing awareness in the wider industry of the difficulty of controlling *Poa annua*.
- The AGCSA will develop a series of technical bulletins targeting the industry in general (i.e. golf clubs, product suppliers and turf managers). It was resolved that the AGCSA would take the lead position in educating and informing all stakeholders of;
  - The difficulty controlling *Poa annua* using existing technology and the challenge of controlling it in the future.
  - Player and club expectations may have to change in line with the superintendent's ability to control *Poa annua* as the chemical options become limited.
  - Cultural and management practices may have to be altered if *Poa annua* is to be controlled.
- Engaging more with herbicide retailers to make sure that they are aware of industry best practice for reducing the opportunity for herbicide resistance to develop.



**Rotation of herbicide mode of action groups within and across years is critical to ensuring that resistance doesn't develop**

**In response to the growing issue of herbicide resistance in *Poa annua*, a series of meetings have been conducted in Melbourne between leading golf course superintendents and industry experts such as Bayer's Jyri Kaapro**







◀ To determine whether resistance is an issue, *Poa annua* plants were collected in Victoria, NSW and SA that had demonstrated herbicide tolerance and were sent for screening for herbicide resistance at Plant Science Consulting

- Undertake research to assess tank mixes using different herbicide modes of action (MOA). There is also a need to study the 'knockdown' approach to weed control using different herbicide MOAs and determining the best interval between herbicide applications. For example, endothal and foramsulfuron with very different MOA's may be more effective applied as separate applications about seven days apart rather than tank mixing them. This is related to foramsulfuron being systemic whereas endothal is a desiccant herbicide. As a tank mix the endothal is likely to interrupt the uptake of the foramsulfuron.
- Undertake research into the effectiveness of herbicides and plant size.
- While resistance to a particular MOA may confer resistance across all of the herbicides in that group, there may still be some scope to look at other herbicides not currently used in turf. For example, there are several resistance mechanisms that can affect the performance of herbicides in the same MOA group. This is particularly within the SU (Group B) herbicides where there are many herbicides not used in turf. These may be worth screening to determine

whether they offer another opportunity to break the resistance cycle.

- Based on the observations from the resistance testing, there appears to be a relationship between the morphological characteristics and herbicide resistance/tolerance. To this effect I have collected several plants that have demonstrated resistance to herbicide applications. The plants are being grown on and the morphological characteristics of tiller number, plant density and plant height are being compared against susceptible *Poa annua* types. Even at this early stage the herbicide tolerant plants are taller and have a greater number of tillers (see photo opposite page).

“We have to get our heads out of the sand and realise that there is no silver bullet. Already there has been resistance noted in other countries to the next 'silver bullet' herbicides that are not yet registered in Australia!”

- In addition to observing the morphological characteristics, profile cores have been taken from locations where herbicide resistance has been observed and these will be dried, dissected into the following layers – thatch, 0-2cm and greater than 2cm – and whatever seed is present allowed to germinate. This will provide information on the size of the seedbank.

## WHAT TO DO NOW?

In the meantime, it is important that all turf managers review their weed control strategies. CropLife Australia (2014) provides several key strategies to be considered in managing weeds;

## INTRODUCING DR PETER BOUTSALIS

**D**r Peter Boutsalis (pictured) will be presenting at the 33rd Australian Turfgrass Conference and Trade Exhibition on the Sunshine Coast in June. On the Wednesday of the conference (28 June, 8.30am-10.30am), Dr Boutsalis will provide delegates with an overview of the increasing problem of herbicide resistance and how it relates to turf management. He will discuss how herbicides work, why herbicide resistance occurs and the relationship between the changes in plant biology and herbicide resistance.

He will be then joined by Bayer's Jyri

Kaapro and expert agronomist John Neylan to look at how weeds are tested for herbicide resistance and how current weed management programmes are driving herbicide resistance, before looking at ways to combat the problem. The trio will also combine to present the *Poa annua* management workshop which will also be held on Wednesday from 11am-2.30pm. This



intensive session will look at;

- The AGCSA *Poa annua* control in warm-season grasses survey.
- The philosophy of herbicide resistance management.
- Herbicide resistance management – A chemical company perspective.
- Practical applications, why control is not being achieved - resistance or poor practice?
- What are the specific elements of *Poa annua* control resulting in herbicide resistance?
- Open discussion forum (Q&A).



- Rotation of herbicide mode of action groups within and across years.
- Keep accurate records. This is already mandatory and most turf managers do it.
- Read the label and associated literature.
- Always use robust label rates. This is effectively the highest label rate. It is important that sub-optimal rates are going to assist in developing herbicide resistance.
- Identify and monitor surviving weed populations and check for resistance. The WSSA (2014) recommends scouting seven to 14 days after each herbicide application and continue at regular intervals. If weeds are present after a herbicide application determine the reason why. Check weed biology, environment (including microclimate effects), application problems, turf management cultural practices and herbicide resistance. Checking for herbicide resistance is not easy and needs to be undertaken by a specialist in the area. The studies that have been done by Dr. Boutsalis provide turf managers with a means of determining whether plants are herbicide resistant. Note: If herbicide resistance testing is undertaken there needs to be a turf industry register as a reference source.
- If resistance is suspected, do not use the same product or mode of action.
- Minimise weed spread. If it is *Poa annua*, think about equipment movements and in particular



mowers. Based on my most recent experience (ATM Volume 19.2) and the work of Brosnon (2015), the tracking of *Poa annua* seed by golfers is undoubtedly a means of spreading resistant types.

- For severely infested areas, consider killing off the turf and weed species using a non-selective herbicide and replanting. Top making could also be another strategy employed.

Based on the observations from resistance testing, there appears to be a relationship between the morphological characteristics and herbicide resistance/tolerance. Preliminary findings indicate that herbicide-tolerant *Poa* plants are taller and have a greater number of tillers

## EQUIPMENT SOLUTIONS



THATCHWAYS



VC60 SCARIFIER



AGRIMETAL BLOWERS



BLEC



LASTEC



GROUNDSMAN



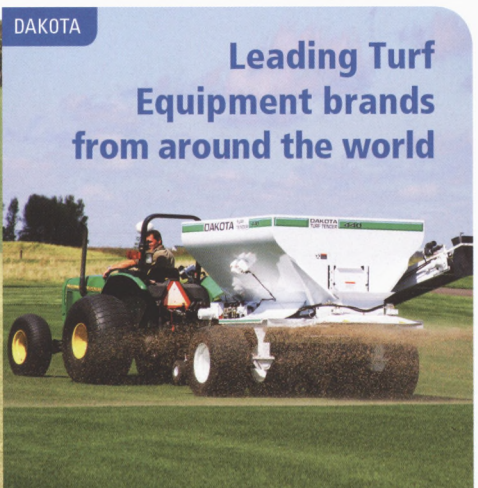
FIRST PRODUCTS



TRU-TURF



AMAZONE



Contact us for an on site demo.

Full range of spare parts available  
Ask us about on site servicing  
of your Equipment Solutions products

Call us on 02 9827 1311, or Stan Wells 0428 263 516, Mike Pauna 0414 821 694, Brian Taylor 0439 808 840



***Poa annua* herbicide resistance testing conducted by Dr Peter Boutsalis has confirmed high levels of resistance to most post-emergents**



- Hand removal of weeds if they are in isolated areas.

### NO SILVER BULLET

Herbicide resistance is an industry problem and up until the meeting held in November 2016 it has not been tackled in a systematic and a whole-of-industry approach. There have been many individual efforts undertaken and sharing these experiences is important as seen through the *Poa annua* control survey undertaken in 2016. The problem has to be tackled in conjunction with turf suppliers, turf

managers, herbicide manufacturers and herbicide retailers. The first steps to this end have now been taken.

The final word from me is that we have to get our heads out of the sand and realise that there is no silver bullet. It was not that long ago that the first of the SU herbicides was introduced to the market and how quickly resistance has developed. There will be no silver bullet – maybe short-term but the ‘power of *Poa*’ will prevail. Already there has been resistance noted in other countries to the next silver bullet herbicides that are not yet registered in Australia!

As noted in the WeedSmart initiative, there are two key tenets of their education programme as follows – “We acknowledge that the era of herbicides only is over” and “Herbicides will continue to be an important part of weed control into the future, but alone they are not the answer”. This philosophy is absolutely applicable to the turf industry.

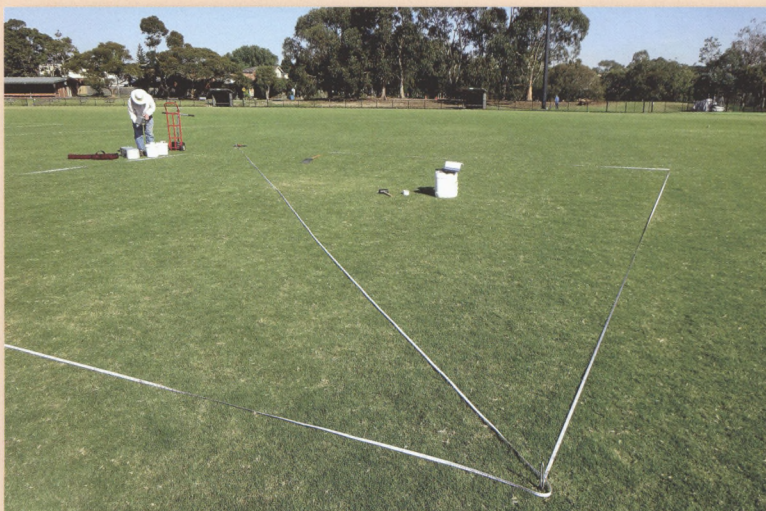
### REFERENCES

- Boutsalis, P and Preston, C. 2009.** *International Survey of Herbicide Resistant Weeds* (<http://www.weedscience.org>).
- Brosnon, J. 2015.** *Golf's Most Common Weed-Control Challenges*. GSR Vol. 53 (12).
- Neylan, J. and Peart, A. 2009.** *Project TU6003 Life-cycle approach to Poa annua control in bentgrass putting greens*.
- WeedSmart Initiative: Diversity era program** (<http://members.diversityera.com/>). 🌱

## RESEARCH PROJECT: COMPARING HOURS OF USE FOR DIFFERENT SPORTS FIELD CONSTRUCTION TYPES AND MAINTENANCE INPUTS

In April 2017 a research project being funded by the Sports Turf Association, Victoria was started by David Nickson (Grand Prix Turf) and myself to study the effects of hours of use on sportsfields of different construction types and levels of maintenance. The project involves four sportsfields used for either AFL or soccer as well as cricket.

Each trial site is divided into five areas (each being 100 square metres) representing both the high and low wear areas of the field. In each area the following measurements are being undertaken; soil description, turfgrass composition by point quadrat, visual assessment of the test area in terms of turf cover, turf density and turf health, traffic and wear, thatch depth, root depth, soil moisture content, infiltration rate, surface hardness, traction, compaction and turf health as measured by the Normalised Difference Vegetation Index (NDVI).



The project is going to be conducted over the next 18 months with seven detailed assessments as well as collating the maintenance information, the hours of use and the level of sport (e.g. junior vs senior). This information will then be compared to the turf quality parameters being measured. As part of the project there will also be a literature review undertaken to provide an up to date document on sportsfield management as it relates to

the hours of use.

Over the research period the results will be provided as interim reports available on the STA website ([www. http://vicsportsturf.asn.au/](http://www.vicsportsturf.asn.au/)) and presented at their seminars.

**Acknowledgement:** Thanks to the STA (VIC) for funding this project and the councils that have allowed us access to the sportsfields under testing.

- John Neylan





# Elastopave®

The innovative material for  
golf course paths

- Water-permeable
- Durable
- Easy to maintain
- Reduces the need for drainage
- Erosion and dust free

Find out more at [on.basf.com/elastopave\\_ANZ](https://on.basf.com/elastopave_ANZ)

 **BASF**

We create chemistry

ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

© Copyright BASF 2017. ® Registered trademark of BASF. W575223 05.2016





# Creeping bentgrass response to combined stresses

Joey Young, 33rd Australian Turfgrass Conference keynote speaker Prof. Mike Richardson and Doug Karcher outline their research project which examined creeping bentgrass putting green response to combined mowing height, rolling and foot traffic when under high environmental stress.

**C**reeping bentgrass (*Agrostis stolonifera* L.) is the predominant grass species used on golf course putting greens throughout transition zone environments. In such environments, conditions are unfavourable for both warm- and cool-season grass species at different times of the year (Fry and Huang, 2004). Air and soil temperatures often exceed optimal ranges during summer months and this can result in reduced root and shoot growth (Huang and Gao, 2000; Liu and Huang, 2001). In addition to the environmental stress, mechanical stresses associated with routine putting green management practices can also negatively affect creeping bentgrass.

Mowing heights for putting greens have decreased over the past two decades as a means to increase ball roll distances. The physical and physiological effects of lowering mowing heights of turfgrass have been well established (Huang and Gao, 2000; Liu and Huang, 2002). Fortunately, newer bentgrass cultivars are more capable of being mowed at lower heights while maintaining acceptable turf quality and deeper roots than older cultivars such as Penncross (Sifers et al., 2001; Sweeney et al., 2001).

The development of lightweight rollers in the 1990s revitalised rolling as a routine management practice, which had been mostly abandoned due to soil compaction concerns (Nikolai, 2005). Rolling putting greens has been shown to smooth the surface and enhance ball roll characteristics (Nikolai, 2005). In addition to these benefits, previous research has indicated that putting green speed is similar when rolling greens managed at a higher

mowing height compared to only mowing at a lower mowing height (Hartwiger et al., 2001; Nikolai, 2005; Giordano et al., 2013). These results suggest that maintaining a higher mowing height, coupled with rolling, should produce a healthier plant that is able to withstand greater environmental stress.

In addition to environmental and mechanical stresses, creeping bentgrass putting greens must also withstand traffic from golfers. The majority of golfer foot traffic is concentrated around the hole location and common walk-on areas of putting greens. Traffic affects turfgrass in two distinct ways by causing compaction of the soil and wear on the turf (Carrow, 1995). The introduction of the USGA sand-based rootzone for putting greens greatly reduces the potential for soil compaction, so the primary negative effect of foot traffic on putting greens is wear injury.

Creeping bentgrass putting greens are commonly managed in regions with high environmental stress and often receive heavy foot traffic. Reduced mowing heights, daily rolling and foot traffic have all been evaluated on creeping bentgrass putting greens individually, but these factors have not been studied in combination. The objective of this study was to determine how various mowing, rolling, and foot traffic intensities impacted turf quality, cover and wear tolerance.

## MATERIALS AND METHODS

An experiment was conducted at the University of Arkansas Research and Extension Center in Fayetteville, Arkansas from May to September during the 2010, 2011 and 2012 growing seasons.



The study was conducted on both an older creeping bentgrass cultivar, SR 1020, and a newer cultivar, Penn G2. Both cultivars were mature stands (>10 years old) established on a sand-based putting green constructed to USGA specifications.

The main treatment factor was mowing height at a bench setting of 2.5mm, 3.2mm or 4.0mm. Main plots were mowed six days per week using a walk-behind mower (Toro Flex 21). The mowing height treatments were divided into three strips for applying rolling treatments of zero, three or six times per week applied with a commercial roller (Speed Roller, DMI/IPAC Group). The rolling treatments were further split and foot traffic was applied by five individuals wearing golf shoes with non-metal spikes (FootJoy golf shoes) walking within each plot to simulate 200 rounds of golf (Hathaway and Nikolai, 2005).

All other management practices generally applied to a creeping bentgrass putting green in a transition zone environment were followed. The entire area was core-aerified with 12.7mm diameter tines (5cm x 5cm spacing) in the autumn and spring of each year. Sand was applied as a light topdressing every two weeks throughout the study period. Trinexapac-ethyl (Primo Maxx) was applied at 0.05kg ai/ha from May through September (US late spring, summer and start of autumn) and routine wetting agent applications were made through summer.

The study area was fertilised with 196kg N/ha each year including foliar feeding 9.9kg N/ha

every two weeks throughout the summer months. Fungicides and insecticides were applied curatively on an as-needed basis to minimise symptoms of disease and insect activity, respectively. Supplemental irrigation was applied evenly over the study area at approximately 100 per cent evapotranspiration return two to three times weekly to avoid drought stress.

Various performance characteristics were evaluated throughout this study including visual turf quality and per cent green turf coverage. Turfgrass quality was determined on a 1 to 9 scale (9 = best quality, 6 = minimum acceptability and 1 = poor quality). Following visual turf quality rating, two digital images were captured of each plot to determine mean turfgrass coverage (Richardson et al., 2001). Following foot traffic events, wear ratings were obtained visually on a 1 to 9 scale, with 9 being no wear injury and 1 representing complete loss of turf cover. All statistical analysis was performed to test for treatment effects and their interactions. Mean separation for significant effects was conducted using least significant difference (LSD=0.05) values for all analyses.

## RESULTS

Visual turf quality diminished significantly throughout the summer months in all three growing seasons (2010-2012) before recovering in September once environmental stresses decreased. Decreased turf quality was more pronounced in 2011 and 2012



**Opposite page and above: The research project undertaken by Young, Richardson and Karcher was one of the first studies to evaluate the effect of low mowing heights with combined stress from lightweight rollers and foot traffic**



## Rainmaster Tree Guards Australia

### REUSABLE. RELIABLE. RECYCLABLE Australia's only rainwater harvesting tree guard

- Rainmaster Tree Guards have developed a uniquely designed tree guard for Australian conditions.
- Our Uniquely designed vents allow water that comes in contact with the outer surface to be channeled inside the guard allowing the water to go directly to the roots of the plant.
- Rainmaster Tree Guards are manufactured in Australia as a sustainable, reusable product to maximise survival rates.
- Available in three different colours Green, Natural and Earth allowing them to blend into any environment.
- The Guards are made from Corflute® plastic which is fully UV stabilised.



- Rainmaster Tree Guards are completely reusable and can be packed flat and stored for use at a later time.
- Rainmaster Tree Guards come in flat packs and fold together with no product wastage.
- Two sets of pre pressed holes allow attachment, by way of UV stabilised ties, to one or two hardwood stakes.
- Rainmaster Tree Guards will not and can not blow away.
- Simple to use and install with all types of labour including unexperienced volunteers.
- 100% reliable and safe for use in open and exposed areas with no negative environmental impact.
- Sustainably harvested Australian hardwood stakes available in correct size.

Rainmaster Tree Guards Australia  
P 0409 940 257 0407 670 522



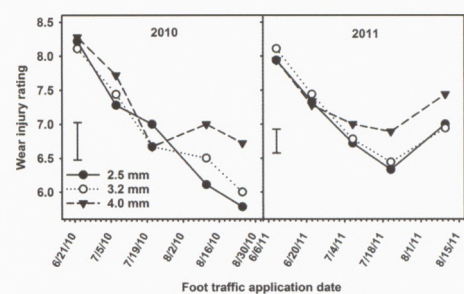
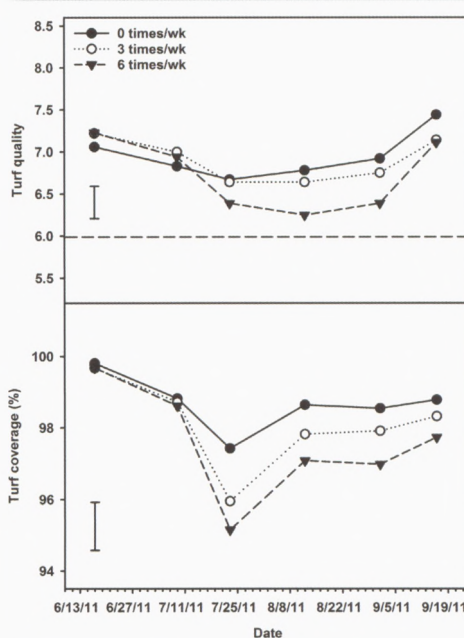
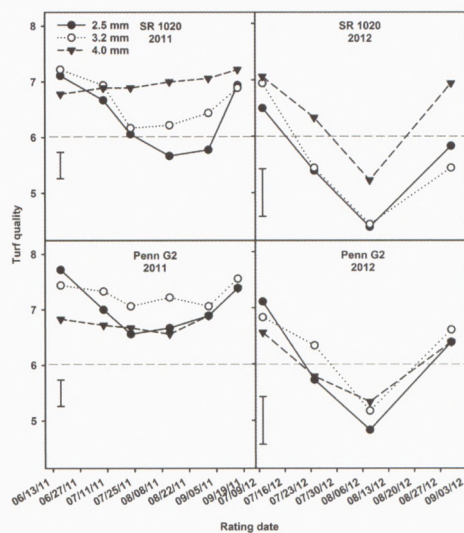
E sales@rainmastertreeguards.com.au  
W www.rainmastertreeguards.com.au



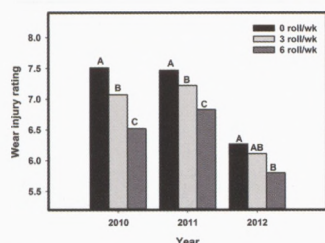
Figures right from top down: Figure 1. Cultivar by date by mowing height interaction in 2011 and 2012 for visual turf quality (1 to 9 scale with 6 minimum acceptability). Data were averaged over rolling frequencies and foot traffic treatments

Figure 2. Date by rolling frequency interaction for visual turf quality (1 to 9 scale with 6 minimum acceptability) and turf cover from digital image analysis in 2011. Data were averaged over cultivars, mowing heights, and foot traffic treatments

Figure 4. Visual wear ratings for mowing heights averaged across cultivars and rolling treatments following foot traffic applications in 2010 and 2011. Wear was visually rated two hours after foot traffic on a 1-9 scale with 9 = no visual evidence of foot traffic and 1 = complete destruction of turf



Below: Figure 3. Average visual wear injury ratings for the main effect of rolling over summers 2010 to 2012. Wear was visually rated two hours after foot traffic on a 1-9 scale with 9 = no visual evidence of foot traffic and 1 = complete destruction of turf. Bars sharing the same letter within year are not statistically different ( $\alpha = 0.05$ ).



had higher turf quality throughout the summer compared to lower mowing heights. Although Penn G2 quality was reduced for all mowing heights through mid-August (US late summer), turf quality was never significantly different among the mowing heights on any rating date.

A significant interaction between rating dates and rolling frequency was observed in 2011 for turf quality and coverage (Fig. 2). Increased leaf bruising from daily rolling significantly reduced turf quality in late summer 2011. Daily rolled treatments exhibited significantly lower turf quality ratings than non-rolled plots during this time period; however, no rolling treatments resulted in unacceptable quality in 2011 (Fig. 2). When combining data for cultivars, mowing heights and foot traffic during this period, rolling treatments significantly reduced turfgrass coverage in July and August 2011 (Fig. 2). Turfgrass coverage in daily rolled treatments recovered to the non-rolled treatments when environmental conditions improved in mid-September (Fig. 2).

Both mowing and rolling treatments significantly affected wear injury in all three summers. As foot traffic continued with higher temperatures throughout the summer months, visual decline from wear stress was increased. In all three summers, daily rolling significantly increased wear injury from foot traffic when compared to non-rolled treatments, and plots rolled three times per week had increased wear injury over non-rolled treatments in 2010 and 2011 (Fig. 3). These results demonstrate the potentially negative effects of wear from foot traffic combined with mechanical wear from equipment during high environmental stress periods.

Lowering putting green mowing heights also enhanced the effects of foot traffic. When averaging across cultivar and rolling treatments, wear injury increased for all mowing heights as temperature stress increased in the summer months of 2010 and 2011 (Fig. 4). In late summer 2010, treatments mowed at 2.5mm exhibited greater wear injury than those mowed at 4.0mm. Similar results were observed in 2011 with significantly less wear damage occurring at the 4.0mm mowing height compared to lower mowing heights from July through August 2011 (Fig. 4).

## DISCUSSION

The results in this study confirm that visual turf quality, coverage and wear tolerance were all impacted by mowing height, rolling frequency and foot traffic. This is one of the first studies to evaluate the effect of low mowing heights with combined stress from lightweight rollers and foot traffic.

Visual turf quality, coverage and wear tolerance decreased for both cultivars with daily rolling, especially during environmental stress. The reduction in turf quality and coverage with daily rolling during the summer months differed from

with significant cultivar by date by mowing height interactions in both years (Figure. 1). Both cultivars had more consistent quality ratings throughout summer months when maintained at 4.0mm.

SR 1020 managed at 2.5mm or 3.2mm exhibited a significant decline in turf quality in summer 2011 (Fig. 1). Penn G2 mowed at 2.5mm also exhibited significant reductions in visual turf quality in 2011, but gradually recovered later in the summer (Fig. 1). In 2012, SR 1020 and Penn G2 responded similarly to mowing height (Fig. 1). SR 1020 mowed at 4.0mm

CONTINUED ON PAGE 60



INSPIRING NEW DESIGNS...



AND ReDESIGNS.

TOP: CATHEDRAL LODGE, MELBOURNE, AUSTRALIA, NEW DESIGN.  
BOTTOM: BROOKWATER, QUEENSLAND, AUSTRALIA, ReDESIGN.

To learn more: [gngcd.com](http://gngcd.com)



**GREGNORMAN**  
GOLF COURSE DESIGN





The rolling treatments were split and foot traffic was applied by five individuals wearing golf shoes with non-metal spikes walking within each plot to simulate 200 rounds of golf

## CONTINUED FROM PAGE 58

previous research where rolling frequencies did not significantly alter visual turf quality (Hartwiger et al., 2001; Giordano et al., 2013).

Although turf quality was decreased with daily rolling in this case, turf quality never fell below acceptable levels throughout the summer months. This demonstrates the challenge for a golf course superintendent to provide optimal putting green performance with moderate stress that maintains acceptable turf quality. However, additional

environmental or mechanical stress may cause significant decline in a short period of time.

A previous USGA publication described the process of 'target' rolling to minimise stress on a putting green (Gilhuly, 2006). Target rolling consists of rolling a portion of the green around the hole location, but not the entire green. The author referenced two golf course superintendents with annual bluegrass (*Poa annua* L.) and hybrid bermudagrass (*Cynodon dactylon* (L.) Pers. × *C. transvaalensis* Burt-Davy) putting greens who implemented this practice as a means to reduce stress and save time prior to golf tournaments. Golfers surveyed did not notice inconsistencies in green speed when increasing mowing heights by 0.7mm and target rolling.

Although previous research has demonstrated few detrimental effects with daily rolling (Hartwiger et al., 2001; Nikolai, 2005; Giordano et al., 2013), the current study indicates that combining daily rolling with daily mowing increases wear injury of creeping bentgrass putting greens. The reduction in wear tolerance was increased under extremely high temperatures, so these conditions may warrant implementing target rolling, especially during summer stress conditions.

As temperatures rise during summer months and golfer foot traffic is high, increasing mowing heights and applying target rolling may increase wear tolerance and maintain a higher quality putting surface. Previous lightweight rolling research has demonstrated positive effects with alternating mowing and rolling practices (Nikolai, 2005; Giordano et al., 2013). This treatment was not incorporated into the current study due to a lack of space for additional treatment application; however, this practice could be implemented to lessen the turf quality decline observed with daily rolling at the lowest mowing height.

## SUMMARY

This research demonstrated the negative effects of combined management practices and foot traffic under high environmental stress during summer months in the transition zone. Increasing mowing heights remains a beneficial approach to enhancing quality and wear tolerance of creeping bentgrass.

However, combining low mowing heights and daily rolling can increase turf stress and should be used in moderation during peak stressful periods. Finally, the practice of moving holes and altering walk-on areas to disperse foot traffic will improve green quality during environmental stress.

## ACKNOWLEDGEMENTS AND REFERENCES

Joey Young is from Texas Tech University, Department of Plant and Soil Science; Mike Richardson and Doug Karcher are from the University of Arkansas, Department of Horticulture. A full list of references for this article can be obtained from the AGCSA. 🌱

## INTRODUCING PROF. MIKE RICHARDSON

**3**rd Australian Turfgrass Conference keynote presenter **Mike Richardson** (pictured) hails from the **University of Arkansas** where he is a Professor in the Department of Horticulture. Richardson's main research focuses on cultural practices that impact cool- and warm-season turfgrass production in the transition zone. In addition, he has been actively involved with research to screen and develop new turfgrasses for a wide range of environments.

At Twin Waters Richardson will team up with leading Australian agronomist **John Neylan** and Avondale Golf Club superintendent **David Warwick** to present the second Jacobsen-sponsored Monday workshop titled 'Understanding the effects of shade in high maintenance turfgrass systems'.

This workshop will discuss light and turfgrass management and look at research into light and shade issues on both warm- and cool-season grasses. Discussion will also centre around innovative ways to measure light levels, new research on minimum light levels required and alternative approaches for

addressing shade problems on both golf courses and sportsfields.

Later on during the week Richardson will also present on soil surfactants and irrigation management and foliar fertilising of high maintenance golf course and sportsfields. He will also join with fellow keynote Lee Strutt (see profile on page 31 of this edition) as part of the panel for the Turfgrass Talkback Forum to be held as the final session of Tuesday's plenary. The AGCSA looks forward to welcoming Mike Down Under for the week.







# MEET THE BAYER TEAM



James Royal  
Turf Market Manager



Jyri Kaapro  
Turf Research Manager



Craig Burleigh  
Territory Sales Manager, VIC, SA, WA

AT THE 33RD AUSTRALIAN TURFGRASS CONFERENCE

## LEARN about the BENEFITS of



Disease Control | Stress Management | Plant Health



**Signature**  
STRESSGARD



**Reserve**  
STRESSGARD



**Interface**  
STRESSGARD

AT BAYER'S STAND  
**ENJOY A  
STRESS-RELIEVING  
MASSAGE  
AND PICK UP YOUR**

**FREE**  
Berocca &  
Stressgard  
Pack



Bayer CropScience Pty. Ltd., Level 1, 8 Redfern Road, Hawthorn East, Vic. 3123  
Technical Enquiries: 1800 804 479 [environmentalscience.bayer.com.au](http://environmentalscience.bayer.com.au)

Stressgard®, Signature®, Reserve® & Interface® are Registered Trademarks of Bayer

© 2017





Blue Lake Golf Links is located in Mt Gambier and since 2015 has proudly hosted the SA PGA Seniors Championships

# Blue Lake Golf Links, SA

There aren't many golf courses in Australia that can lay claim to residing on the side of a dormant volcano. Blue Lake Golf Links in Mt Gambier is one of them.

Improving course definition as well as the health and appearance of the playing surfaces has been a major focus for Hutchings since arriving at Blue Lake

**Superintendent:** Andrew Hutchings (53).

**Family:** Partner of 23 years Michelle, two sons Keenan (22) and Aram (18).

**Years as a superintendent:** 7.5.

**Association involvement:** AGCSA (2.5 years).

**Turf management career:** Mt Compass Golf Course (six months); Adelaide Shores (construction team, one year); Millicent Golf Club (superintendent, five years); Kooyonga Golf Club; Echunga Golf Club; Blue Lake Golf Links (current superintendent).

**Qualifications:** Cert 3 and 4 Horticulture (TAFE SA).

**Where in Australia is Blue Lake Golf Links?** The course is situated just outside Mt Gambier, SA halfway between Adelaide and Melbourne. The town is famous for the Blue Lake which is a body of water that is hopefully a dormant volcano. The water really does appear to be a deep blue colour depending on the time of day.

**Tell us a bit about your background and how you came to be a superintendent.** I started playing golf when I was about 11-years-old, got the bug,

practised hard and improved pretty quickly. I dreamed of turning pro and at 16 was offered a three-year traineeship to become a golf professional. To keep it short, I left before my time was up and started playing as an amateur and loved every minute of it. My first chance to work on course came when I was approached by a secretary manager offering me some hours to assist the ground staff at the course I was playing. I loved it, started studying and it went from there.

I have always loved all things golf and being involved as a player you can certainly form an opinion of what the greenkeepers aren't doing rather than what they are. When you start working on a course your perspective certainly changes when you experience what it takes to get even the basics done. I have played events at courses and been involved at the high end of golf course presentation and came to realise pretty quickly you cannot be a pretender in this industry as your work ethic is on show every day.

**Who were some of your early mentors?** When I was employed at Adelaide Shores as part of the construction crew building 12 new holes, I worked under Wayne Dale. What I quickly observed from Wayne's expectations was he wanted people to go about their daily tasks never compromising on attention to detail; that has really stuck with me to this day. A turf representative and good friend of mine from Victoria also once said to me, 'Don't drive past that Coke can son'. That also stuck and to me says a lot about going that extra yard.

When I volunteered at the 2015 Emirates Australian Open at The Australian Golf Club I took away the importance of how vital it is for staff to find





their managers approachable and develop a real team environment. I think in a superintendent's role you have to be prepared to take calculated risks and back your judgement. You definitely have to think outside the square and keep the people who pay your wages fully informed on your intentions.

**How did you end up at Blue Lake?** I was working out of the turf industry at the time. My family and I moved back to Adelaide for a short time but got a little disheartened with city life and as we hadn't sold our property we decided to return to the south east. I obtained employment with Bayer Crop Science carrying out field trials with GM canola and during this time I was contacted by the Queen Elizabeth Park Trust. The Trust is responsible for the Blue Lake Public Golf Links and they asked me if I would be interested in coming to look at the course and submit some ideas. From there I was offered the role which was perfect timing as I was really keen to get back to what I know and enjoy. The one thing that I really enjoy about this role is the board has allowed me some freedom to push a few boundaries, implement change and create a new work culture. It certainly hasn't been smooth sailing but I always believed the course had great potential.

**Give us an overview of Blue Lake and some of its unique characteristics.** It is definitely a case of dealing with two separate nines. The front nine is about 17 years old, has maturing tree-lined fairways and some flat to undulating holes with 17 bunkers. The course is split in the middle by a road and we access the back nine through a tunnel. The back nine was opened in January 1980 and is heavily tree-lined with old gum trees and various other natives. This nine is built on the side of an old volcano and council dump site. There are certain areas of the course where you don't have to dig deep before you see the remnants of the dump. The course has some magnificent views and is really quite a pretty location that offers a fair test to the golfer.

**What are some of Blue Lake's unique features from a turf perspective?** The fact that the course is located on the side of a volcano can present drainage problems. About three feet below the surface there is a two feet layer of lava sand that water finds hard to penetrate. Once saturation point is reached bunkers become spa baths without the bubbles. During our ongoing bunker renovations we are drilling through this layer, filling with various drainage material and covering with mesh. The exercise is so far proving to be successful.

**Is it an easy/hard facility to manage?** The course is a hard place to manage and like any other course presents its daily challenges. The silty soil type certainly provides a challenge in the winter. At this stage budget does not allow us to carry out major works in regards to installing drainage, applying soil



amendments and topdressing (apart from greens). When the wind blows, which is often, tree debris can litter the course to the point where it takes days to clean up. Tree debris and rough maintenance can have a major impact on our daily work schedules and can be frustrating at times.

**What course management changes have you made since starting at Blue Lake?** When I first arrived there was no definition to fairways, tees and greens surrounds – it was basically cut from tree line to tree line. Shaping fairways instantly gave it a new look and lowering the height of cut on fairways from 16mm to 12mm also enhanced and improved lie conditions. Cutting heights to tees and greens surrounds were lowered from 12mm to 9mm.

Greens were soil tested and put on a nutrition programme to suit results. Verticutting became more intense to help bring thatch levels down to a more manageable level which has reduced disease pressure dramatically. Growth regulators have been incorporated into our monthly greens nutritional programme and hand watering is part of our weekly operations during the growing season. We rake bunkers by hand and faces are broomed weekly which gives them a cleaner look.

**The Blue Lake Golf Links crew (from left) Lukas Byfieldt, Renee Laucirica and superintendent Andrew Hutchings**

CONTINUED ON PAGE 65



## AT A GLANCE – BLUE LAKE GOLF CLUB, SA

**Course specs:** Par 70, 5440 metres. Greens 5800m<sup>2</sup>, tees and greens surrounds 8000m<sup>2</sup>, Fairways eight hectares and roughs making up 12ha. The front nine greens are 1020 bentgrass/*Poa annua*. The back nine greens are bentgrass/*Poa*. All fairways and tees are a mix of ryegrass/*kikuyu*/*Poa*.

**Members/rounds:** 300/18,000.

**Major events:** 36-hole South Australian PGA Senior Championship, Wayne Scutter Invitational and the Easter Championship.

**Annual course budget:** \$250,000 (incl. wages).

**Staff structure:** Andrew Hutchings (superintendent), Lukas Byfieldt (greenkeeper) and Renee Laucirica (2nd year apprentice). Lukas (34) is a qualified horticulturist who was employed at Mt Gambier Racetrack for 10 years before his appointment at Blue Lake 18 months ago.

**Climate:** Annual rainfall averages between 600mm-700mm but last year we totalled 920mm after a particularly wet winter. Already this year to date we are well above average as well. Mt Gambier generally has a warm Mediterranean climate – summer temperatures can exceed 40°C, however, winters can be wet, cold and windy.

**Soil types:** Greens are of a fine silty nature native to the area with push up style construction. These soil types tend to hold moisture just below the surface as the soil typically binds and compacts resulting in poor drainage and an array of other problems. Fairways are pretty much the same proposition and can get very wet during winter.

**Water sources:** One bore for each nine. The region is typically irrigated from underground water which is filtered through limestone formations below the surface. The pH is neutral, however, the bicarbonate levels are high. We have an annual allocation of 140 megalitres which is shared with the attached caravan park.

**Irrigation system:** Front nine Rain Bird IQ, LXME single wire system running older style Rain Bird impact pop ups which are slowly being replaced with Toro Flex 800 series. There are no QCVs on any front nine greens so any hand watering is carried out with a hose from a 1000L tank. The back nine is a Rain Bird LXD 2-wire system with a variable speed pump. The back nine system is about four years old. Greens and tees heads are Rain Bird 5500s, fairways being a mix of 5500s and Eagle 900s. The back nine is much more flexible.

**Cutting heights/regimes:** Greens mown 5-6 times a week at 2.8/3mm, tees and greens surrounds 9mm once a week, fairways 12mm once a week and rough at 40mm mown constantly. Rough is a major maintenance issue at Blue Lake due to the turf varieties that exist in these areas and the scale of the area to be maintained with a small crew. We try to roll greens at least once a week if time permits.

**Renovations:** Spring and autumn renovations usually consist of a half inch hollow tine to about six inches followed by a topdress. Soil amendments are applied and are normally encouraged to recover with various applications due to upcoming major events which are normally programmed around reno times. This can put pressure on to have them back to a good surface in the given timeframe.

Our spacings tend to vary. We get a fair bit of surface lift due to the shallow root system and damage occurs if spacings

are too close. We have tried various tine sizes and spacings and at the moment this seems to be the best option. Encouraging greater root depth is our major goal and we are going forward with this issue, but as we have to source contractors to carry out these works I have to be mindful of budget. We verticut pretty aggressively during the growing season, particularly on the 1020 bent which has certainly improved the thatch levels and decreased insect and disease pressure.

Following the coring in spring we apply chlorantraniliprole with a half rate penetrant and water in and betacyfluthrin is applied in March as adult black beetle activity is observed in large numbers. The greens in the last two years have benefited immensely from a more structured nutrition and maintenance programme which is very encouraging.

**Major disease pressures:** We have all greens and greens surrounds on a preventative fungicide programme purely as a necessity not by choice. Blue Lake Golf Links certainly has its fair share of disease – pythium, brown patch, dollar spot and winter fusarium can all be present at various times of the year particularly in untreated areas. We have to remain diligent particularly moving into the cooler months as dew can cover all surfaces all day due to the terrain, heavily shaded areas and the lack of air movement.

When I first arrived at the course, black beetle levels were the highest I have ever seen before which was quite alarming. In early summer this year, during 8mm of rain, I applied imidacloprid with a penetrant to fairways, tees and first cut roughs. The result was very pleasing with pressure minimal for the rest of the season.

**Nutrition management:** We now regularly soil test our greens and applications are made in response to the results. We foliar feed once a month along with soil conditioners and microbial products applied also monthly. Growth regulators are applied to greens monthly during the growing season which is added to our foliar mixes. Hydrating surfactants and penetrants also play an important role and we would be battling without them.

In the beginning of summer I like to apply a high K greens grade prill to the surfaces. The results have been very encouraging in regards to turf vigour and general health. The application has allowed us the freedom to maintain good ball roll speed without pushing the surfaces too hard. Due to the bicarbonate levels we have also started flushing all greens. The results are very encouraging particularly with black layer and the general appearance of the surfaces has improved dramatically.

**Blue Lake Golf Links resides on the side on an extinct volcano and an old council dump which provide some unique management challenges**





## CONTINUED FROM PAGE 63

We are currently exploring the pluses and negatives of applying growth regulators to all fairways and immediate roughs to help manage these areas to a more acceptable level, particularly when the surfaces are too wet to mow.

**What are some of the major challenges facing Blue Lake both from a turf and club management perspective?** I would like to introduce Santa Ana to the course. Initially I would look at resurfacing all par three tees and sod out a par three fairway which would then become a nurse for future works. The climate and soil types are certainly not ideal to establish and maintain couch varieties but I know other courses in the region have gone down this path with encouraging success. It is certainly an option we are exploring as the benefits in achieving full cover on the course would be enormous.

I see the challenge as we go forward as being able to sustain the momentum built up over the past two years. All concerned are happy with the course but it comes at an increased cost to achieve the current level of presentation. A number of really good courses in the region are suffering from the lack of funding which is having a negative impact on their presentation. The dilemma you have is that if you disappoint a visiting golfer they are more than likely not going to return. For now we are very fortunate that this is not the case for us, however, keeping that momentum going is the financial challenge. The next five years I see are very critical.

**Any major course improvement works recently completed and/or coming up?** We are presently concentrating on bunker renovations. Each bunker is being assessed and addressed one at a time and when time allows. Drainage is being installed, faces reshaped, some sodded and bases recapped with new sand. The golf club is financing the renovations/reconstructions and a band of club volunteers are helping to carry out the works. At this stage six out of 22 bunkers have been successfully completed. Also earmarked is a new putting green and three new tees.

**Since 2015 Blue Lake has hosted the SA PGA Seniors Championship. Talk us through this event and your preparations.** Hosting such an event has been fantastic for the club and township and very well received. When first hosted in 2015 it was an 18-hole event but has subsequently grown to 36 holes. The event is driven by an individual that is very passionate about promoting the course and the game of golf here in the south east.

The tournament certainly comes with a financial cost with overtime and increased mowing schedules and the pressure is there to deliver a course that is well above normal standards. It is the one time of the year when we as a team, including the



volunteers, have the opportunity to showcase the course and its potential. Typically to achieve this we start preparation about a month out, all mowing and greens rolling becomes more intense as the tournament approaches and applications of K, Fe and growth regulators are applied to greens to assist in overall appearance and ball roll.

**The one product I couldn't manage my course without is...** Growth regulators and wetter pellets (sorry that's two). Both play a very important role in our endeavour to move forward with turf quality. Both products are used on the greens which has improved general health and given us the ability to hang onto those hot spots when the pressure is on.

**Are expectations of course presentation any less than those placed on your metropolitan counterparts?** I think that in the country we have to be realistic of what can be achieved on a weekly basis. We certainly don't set out to present the course any less than our metro counterparts, but the fact is we just do not have the labour or resources, so there is always a trade off somewhere. Without doubt the metro supers and staff are definitely under more pressure to achieve a more consistent and presentable product weekly. Blue Lake is probably the best equipped course in the region as far as staff numbers (3), budget, irrigation system and machinery go, so I guess the pressure is on to deliver on that. That said it is probably one of the hardest courses to manage.

**Silty soil types and heavily tree-lined fairways add to the management challenges at Blue Lake**

**One of the major ongoing projects at Blue Lake is bunker renovation**







◀ **Hutchings is currently exploring the pluses and negatives of applying growth regulars to fairways and immediate roughs to help manage these areas to a better level**

**If you could change one thing about your job as a regional superintendent what would it be and why?**

It would be great to be able to delegate a bit more responsibility. Doing so effectively would have a positive outcome on general course presentation. As my role is very much hands on, writing reports, dealing with people, reading meters etc. all has an impact on the course. My time management is being addressed and definitely a work in progress.

**What have you got in your shed?** An ancient Toro Sand Pro, trailered 1000L spray tank, Toro Workman 3300D Multi Pro sprayer, Kawasaki Workhorse ag bike with 70L tank and boom, two Kubota F3680 front deck rotaries, two Toro Greensmaster 3150Q, Toro Greensmaster 3250D, Toro Reelmaster 6700D, Toro Reelmaster Sidewinder 3100D. The Toro Workman 3300D, 700L Multi Pro spray unit is definitely my favourite. When I first arrived the fairways were badly occupied with white clover and capeweed. Since the purchase of this machine about a year ago weed pressure is way down, but will be ongoing as we contend with the seedbank that has built up over the years.

On the wish list is a small tractor and a vertidrain machine, or an additional staff member! The vertidrain would enable us to get serious with our compacted shallow-rooted greens and allow us the versatility to go out when the window presents. An extra staff member would also give us the ability to take the course to another level. We had a gentleman that volunteered his time 40 hours a

**Shortly after arriving Hutchings undertook soil tests on the greens and put them on a new nutrition programme. Verticutting has also been intensified to reduce thatch levels which has reduced disease pressure dramatically**



week for nearly six months. Although he had never worked on a golf course before he was a very competent machine operator and as a team of four the course was presented well on a weekly basis. For me it freed up some time to consistently attend to the 'one percenters'. He has since moved on which was a real loss.

**Best advice you have received about being a superintendent.**

I recently watched a video recorded at last year's Australian Turfgrass Conference in Melbourne which looked at dealing with and recognising stress. As they say, if the turf is stressing so is the super. What I took from the webcast is that as much as we genuinely care about the course, when it comes to the crunch it's only turf and it's not worth making yourself sick over it. It has helped me to stand back and take a breath when things get a little more demanding than normal.

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

Getting that work life balance is not easy. As a superintendent we put a lot of pressure on ourselves, our expectations are high and we demand quality from staff and volunteers. I don't think too many superintendents and 2ICs really switch off. It's a lifestyle more than a job and the demands that come with such a position often mean making personal sacrifices. In saying that I don't know a super that doesn't love what they do, but finding that balance is important.

**What gives you the most job satisfaction?**

I love to see the course looking smart and presentable all at once. That is not an easy task but one that gives me a lot of satisfaction when achieved. When I volunteered at the Australian Open it was amazing to think the whole course was cut, greens double cut, bunkers faced and raked, all debris cleaned up, tee markers and holes changed all by 8.30am – it was very impressive!

**Most pleasing/rewarding moment during your time at Blue Lake.**

It is rewarding to see turf conditions react positively to the practices that have been adopted and the surfaces are healthier and becoming easier to manage. It is definitely a number of things that have been put in place that are giving us consistent more manageable results. At this point it has been a dedicated team effort and all concerned – staff and club volunteers, particularly the club president – should be proud of their contributions.

My time at the course has seen events that were not even considered to be hosted in the past, such as pennant finals and SA veterans, now come from Adelaide to play the course and a big achievement was taking out the best PGA Seniors event in SA for 2016 at the state industry awards. So it is great for everyone to get some recognition for the time and expense invested. 🌱



# LakePak® WSP

Aquatic Treatment

Need a quick and easy water treatment?  
The choice is clear.



**LakePak® WSP** is a concentrated microbial product containing a unique blend of *Bacillus* bacterial strains. LakePak has been specifically designed to biodegrade nutrients, organic matter and hydrocarbons in contained water bodies, reducing odours, sludge and conditions which give rise to algal blooms.

For more information visit [www.agro.basf.com.au](http://www.agro.basf.com.au)

 **BASF**

We create chemistry

ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

© Copyright BASF 2016 © Registered trademark of BASF: W543987GOLF 07.2016



## JOHN DEERE'S 8900A LARGE AREA MOWER HITS AUSTRALIAN FAIRWAYS



John Deere's new 8900A PrecisionCut large area reel mower provides an increased level of productivity and versatility

**A** GCSA Silver Partner John Deere's new 8900A PrecisionCut™ large area reel mower is now available in Australia. First unveiled at GIS 2017, the 8900A PrecisionCut maximises both productivity and cut quality while giving course superintendents more control over how it performs on the course.

The 8900A has a productive 2.9m-3.3m mowing width and provides all-day performance needed for golf course mowing of fairways, roughs or any fine turf areas where productivity is paramount. The 8900A utilises a large-capacity eHydro™ transmission, combined with large-displacement

wheel motors, to deliver performance needed for excellent hill climbing by utilising the GRIP all-wheel drive traction system. This is the same traction system used on other John Deere Golf machinery such as the new 9009A TerrainCut Rough Mower.

John Deere has added several features to the 8900A to make it a more versatile worker. Utilising 26-inch or 30-inch Quick Adjust 7 (QA7) cutting units and higher capacity reel motors, it can tackle mowing both the fairway and rough. And with the help of standard LoadMatch™, it excels in scalping and verticutting applications.

Like all A Model machines, the 8900A also features the innovative TechControl display. TechControl allows the superintendent or technician to input a wealth of commands, including mow speed, turn speed, engine speed, and service timers, and also provides on-board service diagnostics – giving them complete control over cut quality and performance.

Additional features of the 8900A include:

- Three operator entry and exit points of operator station with many comforts, such as foot-operated tilt steering, eHydro pedals with no linkages to decrease operator foot fatigue and a standard air suspension seat.
- Internal wet-disc brakes that reduce maintenance and downtime.
- Rear-attaching yoke points on cutting units to ensure consistent ground engagement of the rear roller.
- A standard two-post rollover protective structure (ROPS)

**For more information on the 8900A large area reel mower, please contact your John Deere Golf dealer.**



BASF's Elastopave product provides a new solution for golf course pathways

### ELASTOPAVE PATHING TECHNOLOGY LAUNCHES IN AUSTRALIA

BASF has unveiled its Elastopave golf course pathing solution in Australia with the product's first installation at Settlers Run Golf and Country Club in Melbourne's south east.

Elastopave is an affordable, high-strength and durable, water-absorbent pathing system that can be applied on level ground without the need for drainage. The low-maintenance pavement solution helps reduce flooding and erosion, thus helping to reduce maintenance costs.

The Greg Norman-designed Settlers Run is the first golf club in Australia to install Elastopave, with course superintendent Stuart Graham impressed with the results to date: "We have received good feedback from our members since the installation," says Graham. "The porous covering layer prevents puddles, meaning less damage to the cart path, lower maintenance costs and shorter downtimes. All we have to do is give it a quick hose-down when it needs cleaning."

Elastopave is a polymer composite which is mixed with gravel or stones. The high proportion of stones of various sizes creates more interconnected cavities than concrete or tar, meaning greater water-permeability. Public spaces paved with Elastopave can absorb an estimated 4000 litres of water per hour per square meter.

The pathing solution is ideal for Australian golf courses due to its water permeability, simple application process and minimal maintenance requirements. The designer look and feel of Elastopave, with its colour variations, also makes it an affordable way to improve overall aesthetics.

**For more information, images and how-to videos, visit on [basf.com/elastopave\\_ANZ](http://basf.com/elastopave_ANZ)**



### BILSTON JOINS SYNGENTA

AGCSA Gold Partner Syngenta has appointed Tim Bilston (pictured) as territory sales manager (Victoria, South Australia and Tasmania) as part of its Turf & Landscape business.



Business Manager ANZ Paul Jackson says Bilston's appointment continues the company's investment in the turf industry and is the direct result of continued growth in the Turf & Landscape markets across Australia. "We are really excited about Tim joining the team as he has a vast array of experience from his time in turf management as well as his previous role as a turf sales manager in Victoria with Oasis and more recently running his own family business focused on safety training."

Bilston has a Diploma in Horticultural Turf Management and a Certificate IV Training and Assessment. His previous employment as a turf manager included time at Huntingdale Golf Club then as superintendent at Heidelberg Golf Club. Bilston can be contacted on his 0428 274 069 and email [Tim.Bilston@syngenta.com](mailto:Tim.Bilston@syngenta.com).

## TORO TURF PROS FORUM HEADS TO QUEENSTOWN

The stunning scenery of the Queenstown region was again the perfect backdrop for the 7th Toro Turf Pros Forum, which was held in late March at Millbrook Resort. Forty-three superintendents from Australia and New Zealand were hosted by AGCSA Platinum Partner Toro Australia and given the opportunity to come together to talk about best practices and the challenges of turf management in the golf industry.

Toro Turf Pros gives participants the chance to network with other superintendents from courses of all sizes and discuss everything 'turf'. A full programme consisted of product presentations and information sessions on workplace culture, WHS, finance and precision turf management as well as open forum feedback sessions.

Golf was played in the afternoons at two of New Zealand's most magnificent golf clubs – Millbrook Country Club and Jack's Point. Rob Weiks from Brookwater Golf and Country Club in Brisbane was the winner of the Toro Turf Pros Cup.

## JD TEAMS CHAMPS SET FOR GULF HARBOUR FINALE

The John Deere Trans-Tasman Team Championships is on again with the Australian and New Zealand

regional qualifying series nearing the halfway mark.

It is the 15th anniversary of the popular teams event, with this year's final set to be played at Gulf Harbour Golf Course just north of Auckland, New Zealand on 11 and 12 October. The venue is ranked as one of the top courses in New Zealand and overlooks the scenic beauty of the Hauraki Gulf and surrounding landscape.

As in previous years, the competition is open to teams from all golf clubs and nominations can be made at all John Deere Golf dealers. Teams are required to comprise of three players holding the position of either course superintendent or approved maintenance staff, club manager and a member of the club committee (e.g.: captain, greens chairperson). The format being played is an elimination scramble with the slope handicap for players being used on the respective course.

John Deere Golf dealers are conducting qualifying events throughout the year with Vanderfield having recently conducted the first qualifying round at Middle Ridge Golf Club in Toowoomba, QLD. The event saw a well-supported field compete with the host club taking out the day.

As this edition of ATM was going to print Cooroy Golf Club (Qld) and Eagle Ridge GC (Vic) were due to host qualifiers with a further five to be held at Brisbane GC, Qld (10 July), Moss Vale GC, NSW (7 August), Windsor GC, NSW (14 August), Huapai GC, Silverdale, NZ (18 August) and Perth (date and venue to be confirmed). To nominate your team for the John Deere Trans-Tasman Team Championships, contact your John Deere Golf dealer.



**Forty-three Australian and New Zealand superintendents converged on Queenstown for the 2017 Toro Turf Pros. Rob Weiks (above left) took out the Toro Turf Pros Cup**



# SpraySURE

Order VELISTA Turf Fungicide at the conference and receive a pack of Syngenta XC 08 Nozzles. The first 20 customers will receive a SpraySure pack.

Syngenta Australia Pty Ltd, Level 1, 2-4 Lyonpark Road, Macquarie Park NSW 2113. ABN 33 002 933 717.



Scan the QR code for more info on XC Nozzles

**syngenta®**



## 33RD AUSTRALIAN TURFGRASS CONFERENCE TRADE EXHIBITION – COMPANY HIGHLIGHTS



**B**e sure to check out the following companies and their new products which will be featuring during the 33rd Australian Turfgrass Conference Trade Exhibition (Wednesday 28 and Thursday 29 June) at Novotel Twin Waters.

### TORO AUSTRALIA

AGCSA Platinum Partner and major conference sponsor Toro will be unveiling two new products at Twin Waters:

- **Multi Pro with GeoLink™:** The industry's first turf-based precision spray system, turf professionals will benefit from substantial chemical savings thanks to individual nozzle control and the available sub-inch accuracy. Reporting is simple with GeoLink; application rates, coverage maps, area and volume data are easily downloaded for thorough record keeping.
- **Stealth Series Kit for Infinity® Series sprinklers:** These kits can be easily installed onto any Infinity sprinkler allowing turf growth directly on top of the sprinkler to eliminate the hard surface bounce should a golf ball hit it (see photo left). The seamless turf appearance adds to the beauty of the course and improves labour efficiency by minimising trimming efforts around the sprinklers.



### ADVANCED SEED

AGCSA Bronze Partner Advanced Seed will be showcasing its new **Grass Pro** product. These heavy duty rubber mats can be used on flat or contoured turf and are ideal for pathways, sloped, or high-traffic areas where heavy use can cause degradation or where surface water and mud are problems.

Grass Pro provides extra traction for areas such as walking tracks and slopes, plus grass protection for gateways, sportsfields, public areas and other high traffic outdoor situations. The mats can be topdressed and re-seeded for grass retention.

### COLIN CAMPBELL CHEMICALS

Australian owned and operated Colin Campbell (Chemicals) will be showcasing a brand new product called **Emerald**. Emerald contains a new active ingredient and chemical group and has been submitted for the control of dollar spot, anthracnose, helminthosporium and grey leaf spot.

### DINT

AGCSA Bronze Partner Dint will feature the US-manufactured **GreensGroomer** on its stand at Twin Waters. As highlighted in last edition's ATM, the GreensGroomer aids in the incorporation of topdressing medium on golf course. The GreensGroomer can be used all year round and

according to its manufacturer won't scuff, bruise or damage turf on greens, fairways or tees and effectively moves both wet and dry topdressing and brushes off heavy dew and grass clumps.



### HUNTER INDUSTRIES

AGCSA Bronze Partner Hunter Industries will be featuring its new **Pilot central control system** designed exclusively for golf course irrigation control. The new system is available as an above-ground system using conventional field controllers or a below-ground system using decoders, and can be used stand-alone or networked into a whole system with Pilot central control software. It can be used in retrofit, upgrade and new construction situations.

### SYNGENTA

AGCSA Gold Partner and major conference sponsor Syngenta will be launching its new **Velista** fungicide. Velista is the result of years of research and development and brings a powerful new active ingredient to the Australian turf market to protect and eradicate turfgrass diseases. Velista provides a broad spectrum SDHI (succinate dehydrogenase inhibitor) option for the control of dollar spot, brown patch, spring dead spot, anthracnose, curvularia leaf spot, helminthosporium disease and red thread.

The active ingredient in Velista is penthiopyrad which has proven in Australia and overseas to be a versatile fungicide controlling a number of leaf, crown and root diseases in greatly varying crops. Velista is a Group 7 SDHI fungicide and offers an excellent rotational partner to help minimise any resistance risks and therefore extend the usable life of many existing and future chemistries.

In addition, globally Syngenta has conducted some interesting research around women in golf and have uncovered some insights into attracting new players and keeping golf viable in the future. Visit the Syngenta stand to find out more about this research. 🌱







# fairway MaxMini

DUAL CONTROLLED RELEASE NITROGEN

**A premium 150 SGN mini  
prill sports turf fertiliser**

✓ **Multiple Forms of Slow  
Release Nitrogen for  
Exceptional Release  
Characteristics**

✓ **150 SGN Mini Prill**

✓ **Controlled Release  
Potassium**

✓ **Australian Made**



**NUTURF**  
SPECIALISTS PROVIDING SOLUTIONS

## fairway MaxMini

DUAL CONTROLLED RELEASE NITROGEN

**22-0-19**

+ 2% Fe

**NUTURF**  
SPECIALISTS PROVIDING SOLUTIONS

## fairway MaxMini

DUAL CONTROLLED RELEASE NITROGEN

**25-0-13**

+ 3% Fe

**NUTURF**  
SPECIALISTS PROVIDING SOLUTIONS

## fairway MaxMini

DUAL CONTROLLED RELEASE NITROGEN

**30-0-7**

+ Fe

**PROVIDING SOLUTIONS  
FOR OVER 50 YEARS**



For more information contact your  
local Nuturf Territory Manager on  
**1800 631 008** or visit [www.nuturf.com.au](http://www.nuturf.com.au)



**NUTURF**  
SPECIALISTS PROVIDING SOLUTIONS





The Queensland turf industry lost one of its most dedicated practitioners with the passing of Royal Queensland superintendent **Marcus Price** suddenly in early April

The last few months have been very challenging for all GCSAQ members with extreme temperatures, drought and flooding rains thanks to Cyclone Debbie. Many clubs suffered significant revenue loss due to damage to their courses, the resultant clean up and also lack of play. All clubs are back up and running now and it shows great resilience and dedication by our members to dig in, get on with the job and get things up and running again.

Our recent Turf Forum Day held at The Bottomline Turf Farm at Stockleigh showcased **Matt Roche's** work with the warm-season turfgrass collection previously held at the Redlands Research Station and managed by **Don Loch** and his team. Matt took us through the plots and enlightened us on the specifics of maintaining this valuable industry resource.

Following Matt's presentation, our Turf Forum covered couch encroachment and also maintenance of the new hybrid couches including Novatek, Champion and TifEagle. **Brett Morris,**

**Paul McLean, Peter Lonergan and Shane Heaney** all gave us valuable insight into their management experiences. The forum created great discussion from the floor and we could have stayed there another day just talking grass. Thanks to all the GCSAQ committee for making this day work and to **Mick McMahon** and **Paul Bevan** from GTS for cooking up a storm for lunch.

Our next days will work around the 33rd Australian Turfgrass Conference and Trade Exhibition at Twin Waters and also e-par's Certificate in Leadership courses. Regional agronomist with the PGA Tour, **Mark Johnson,** will be in Queensland as part of e-par's course and **Shaun Cross** has made contact with Mark regarding his availability to be involved in an information/walk 'n' talk day yet to be formulated. Mark is keen to be involved if we can make it work, so the GCSAQ committee are intending to make the stars align with this one and will inform you of any developments.

The GCSAQ have also sponsored two placements at this year's Twin Waters conference. We are supporting our regional clubs by giving this opportunity to a regional apprentice/greenkeeper to further enhance their knowledge and skill set. Nomination forms have been sent to all regional clubs via Golf Queensland and the positions will be awarded based on the merit of the applications.

Recent movements have seen **Glenn Gibson-Smith** move back to the Sunshine State to take over the reins at The Glades, **Steve Lolacono** depart Woodford GC and also **Andy Boswell,** former assistant at Mt Coolum Golf Club, move to Nambour Golf Club where he has taken over as superintendent.

Finally, as I am sure all in the industry will know by now, Royal Queensland Golf Club superintendent **Marcus Price** passed away suddenly on 9 April at just 47 years of age. His passing was a shock to all of us, especially RQ assistant superintendent **Adam Mills** and the rest of the crew.

Marcus's passion for his course was evident every time you spoke to him and I really enjoyed his company and the many conversations we had on agronomy and growing turf over the years. He was a unique individual who loved RQ – his place of employment for 28 years – and was a very strong supporter of our association. He was extremely proud to host last year's GCSAQ Annual General Meeting and presented pristine surfaces for all his peers to enjoy. I will miss him as I am sure many of you will too.

I look forward to seeing many of you at the Twin Waters conference in June and hope the sun keeps shining on us all.

**BEN TILLEY**  
PRESIDENT, GCSAQ





The association has just held its 90th Annual General Meeting at The Metropolitan Golf Club with over 120 members attending. Although the weather was brisk and showery at times, the golf course was presented magnificently by host superintendent **Dave Mason** and his course staff.

As with the majority of the sandbelt golf clubs, the conditions were firm and fast. This was quite a feat considering the rain experienced in Melbourne through April, where most areas recorded more than double the monthly average. Non-golfers were treated to a comprehensive course walk and talk session with Dave before lunch.

More than 80 teed up for the golf with Neanger Park Golf Club superintendent **Brendan Brown** negotiating the tricky conditions to shoot 77 and claim the VGCSA's coveted Powell Trophy. Brendan beat home East Framlingham Golf Club superintendent **Ross Corbett** by a shot.

Patterson River superintendent **David Johnson** took out the Toro Cup with 38 stableford points, with Ross having to settle for the runner-up prize again with 36 points. The Presidents Shield, contested by VGCSA trade members, went to **Matt Wrigley** (Country Club International) with 41 points. Nearest the pins went to **Leigh Yanner** (The National GC) and **David Phillips** (Spring Valley GC), with Yanner adding a longest drive prize alongside **Shaun Page** from Southern Golf Club.

Guest speaker **Paul Mogford**, architect and principal of Crafter + Mogford Golf Strategies, joined Dave Mason on stage for a Q&A session during lunch. The duo were quizzed about the club's impending five-year golf course enhancement works, with Dave providing an insight into his trials with various bentgrasses and greens construction methods, while also touching on the course's new irrigation system installation which had just started.

The VGCSA's annual awards were then handed out with long-serving Huntingdale Golf Club superintendent **Michael Freeman** receiving the Superintendents Recognition Award for his



**Paul Mogford outlines Metropolitan Golf Club's course enhancement plan works at the recent VGCSA AGM**

many years of dedication to his club as well as the VGCSA. **Mark Eardley** from VGCSA partner K&B Adams was bestowed the Trade Recognition Award. VGCSA Apprentice of the Year **Joel Manson** (Anglesea GC) and 2nd Year Diploma Scholarship winner **David Johnston** (13th Beach Golf Links) were also recognised for their achievements.

Following lunch and awards presentation, the 90th VGCSA AGM was conducted with two new faces joining the committee for 2017/2018. **John Mann** (Woodlands Golf Club) and 2016 World Cup hosting superintendent **Hayden Mead** (Kingston Heath Golf Club) were confirmed on the general committee, replacing Freeman and Tom Smith who had departed in late 2016 after taking on a role with HG Sports Turf in Singapore. The full VGCSA committee is:

- **President:** Mat Poultney (Green Acres GC)
- **Vice-president:** Barry Proctor (Cranbourne GC)
- **Secretary:** Shane Greenhill (Sorrento GC)
- **Treasurer:** Steve Burchett (Portarlington GC)
- **Committee:** Steve Hewitt (Thirteenth Beach), Kyle Wilson (Moonah Links), John Mann (Woodlands GC) and Hayden Mead (Kingston Heath GC)

Early June will see the VGCSA host its annual 2IC/3IC/Groundstaff education day at Huntingdale GC with guest speakers **Travis Scott** (Riversdale GC) and Michael Freeman.

**MATHEW POULTNEY**  
PRESIDENT, VGCSA



**Metropolitan Golf Club superintendent Dave Mason**



**MELBOURNE  
CHAIN WIRE  
FENCING**

**SECURE AND ATTRACTIVE  
FENCING SOLUTIONS**

- Boundary
- Enclosures & Partitions
- Parking

p. (03) 9457 1704 | e. sales@melchain.com.au

[www.melchain.com.au/golf](http://www.melchain.com.au/golf)

**GOLF COURSE FENCING SPECIALISTS**

Brush Panel | Chain Link | Shade Cloth | Timber Bollard | Tubular Steel







The change of seasons.  
Neighbouring Mt Taranaki as seen  
from Westown Golf Club's 15th hole.  
Westown is home to superintendent  
and NZGCSA president Steve Hodson



**A**s I put pen to paper, nature is announcing its transition of seasons. Temperatures are dropping, the kaleidoscope of colour with the autumn hues is disappearing as the leaves fall and the days are getting noticeably shorter.

While I dislike the winter months for the fact of limited daylight hours and leaving for work in the dark and often returning home as it darkens, winter does provide us all with an opportunity to recharge our body batteries after what has been a very long and damp growing season.

Keeping up with the mowing has been a challenge for many and often stuck with the dilemma of mowing and leaving unsightly grass clumping or not mowing and paying the price of twice as much grass volume next time you mow. Add to this the stresses of the club hierarchy still demanding the desired finish and presentation while appearing to have no appreciation nor empathy of the imposition that the wet weather brings.

Most clubs have their members who are 'weekend greenkeepers' whose qualifications come from mowing their little patch of lawn at home and then retire to the couch to watch golf on television. They see the beautifully manicured and presented course and then expect their own local course to replicate the same, conveniently forgetting that the course on television has probably staff levels and budgets of 10 or 20 fold higher than their own course.

A big part of our job within the turf industry is to continually educate both our boards/committees on how and why we do things and the many challenges we face along the way. The more education and communication between green staff and hierarchy/members pays dividends to all parties and is something we should all strive for.

So now back to recharging your batteries. Everyone should try and take the opportunity to take a break over the winter months when tasks on your golf course slow down a bit. As someone commented last week "they put their course to bed for the winter". Your own health and wellbeing is paramount but often overlooked at the expense of work.

Fortunately more awareness of men's health in particular is being made and most turf conferences and seminars are now addressing this with specific sessions and education. So go and fill your leave application out now and plan your next break.

## FUTURE TURF MANAGERS' INITIATIVE

The NZGCSA congratulates the following candidates who have been chosen to attend the AGCSA Future Turf Managers' Initiative (FTMI), presented in partnership with Jacobsen, at the 33rd Australian Turfgrass Conference at Twin Waters in June (see earlier in this edition for profiles on each):

- George Flynn (Pukekohe GC)
- Alex Yates (Royal Wellington GC)
- Connor Scott (Titirangi GC)
- Kiel Stechman (Manawatu GC)
- Lance Morrin (Pakuranga GC)

This is an exciting opportunity made available to members of the NZGCSA in conjunction with Jacobsen. It enables those greenkeepers displaying potential as future industry leaders to upskill and to also create networks with likeminded people. This year those networkings will extend to the Australian FTMI counterparts with whom our FTMI candidates will be sharing the experience. Again our thanks goes to Jacobsen who make this fantastic opportunity possible.

And for others wanting to increase their own development and education, plus networking, there are two opportunities coming up over the next few months. Firstly the AGCSA conference takes place at Twin Waters on Australia's Sunshine Coast from 26-30 June 2017, and secondly the Southern Turf Managers are holding their Fine Turf Seminar in Dunedin from 20-22 August 2107.

The FTS programme looks to have something of interest for everyone so I would urge you to make the effort and support them. Registration is now open and registration forms are available on the Facebook page of the Southern Turf Managers Association.

**STEVE HODSON**  
PRESIDENT, NZGCSA

Autumn spraying at dawn at the very picturesque Arrowtown Golf Club in New Zealand's South Island





# PERFECTION IS A MATTER OF PRECISION

"The Jacobsen LF570 is the perfect fairway mower for our course. Nothing is comparable to the LF570, the staff all felt we would have been mad not to go with Jacobsen.

The LF570 provides us with the perfect balance of power and weight to ensure that every blade on our fairways is cut with precision and quality."

**Nick Kinley,**  
Course Superintendent, Hartfield Golf Club



**OFFICIAL SUPPLIER**  
**2018 RYDER CUP**

Call **1800 465 226** or visit  
[www.jacobsen.com](http://www.jacobsen.com) to find your local dealer.

[www.jacobsen.com](http://www.jacobsen.com)



ATM/HartfieldGC/5/2017

**JACOBSEN**



# STA WA



**The STA WA Cricket Wicket and Sports Fields Renovation Workshop was held at Murdoch University and provided attendees with hands-on demonstration and up-close tuition with some of WA's most experienced wicket curators**

Less than a week after the last stump was lifted at the end of the cricket season, we returned to Murdoch University's Sports Ground on 29 March for the STA WA Cricket Wicket and Sports Fields Renovation Workshop. This was the practical aspect of last year's Cricket Wicket Seminar which gave the delegates a chance to experience some on-ground instruction in using a selection of specialist renovation equipment.

Days like this offer the rare experience to have a safe hands-on demonstration and up-close tuition with some of our experienced curators, where they can freely question and debate the choice of equipment for the desired result and discuss the various settings required to achieve those results. The STA WA is very grateful that **Matthew Lane** (Scotch College), **Ross Domney** and **Dale Loxton** (WACA) and **Chris Marsh** (UWA) were available to coach and encourage the delegates throughout the wicket renovation rotations that day.

However, before the delegates all moved out in groups towards their training sessions, everyone was seated within a cleared space inside the grounds shed for a presentation from **John Forrest**, senior turf lecturer from South Metropolitan TAFE, on

the whys and wherefores of renovating turf surfaces. This was followed by an informative presentation from our interstate guest **Matthew Holmes** of Syngenta who talked on the development of their range of fungicides and the very serious issue of correct pesticide selection and usage so as to avoid outbreaks of resistance.

Moving outside, **Luke Harrison** from Mowmaster belied his youth and did a masterful job presenting a practical lecture on cylinder mower adjustment and maintenance tips (anyone would think that he grew up around a mower workshop). Much further away in the outfield, **Jerrod Hill** with **Barry Ewen** from State Wide Turf Services were on hand with John Forrest to express and explain the many facets of sports field renovation – the benefits of precision levelling utilising the top fieldmaker, combatting compaction and maintaining an evenly wet rootzone profile with the regular use of hollow core aeration and the revitalising effects of vertimowing/grooming.

The day would not have been possible without the staunch support from the Nuturf team in Perth with **Stephen Jones'** networking skills and **Josh Walker's** highly practiced barbequing talent. The day was without doubt a success which we hope to replicate in the future.

The next event on the STA WA calendar is our major biennial seminar that will once again be held at the Tompkins Park Function Centre on Wednesday 31 May. This event is co-hosted by the WA Turf Growers Association and is set to be an outstanding day of seminar and trade exhibition. For more information, please visit [www.sportsturfwa.asn.au](http://www.sportsturfwa.asn.au)

**TONY GUY**  
PRESIDENT, STA WA

## STANZ



We are currently undergoing some interesting changes to our sports field maintenance contracts in Auckland. The boundaries of our existing contracts have been adjusted and as part of an initiative called Project 17,

Auckland Council has decided to amalgamate its open space maintenance (OSM) contracts with its community facilities maintenance contracts across the city.

This has resulted in the termination of several long-term relationships with NZ companies and the introduction of two Australian companies, Ventia and Urban Maintenance Systems, to the Auckland OSM market. Changeover will take effect from 1 July 2017 and subsequently both companies are in the process of recruiting staff in time for the start of the new contracts. This is a bold move by Auckland Council and will be watched with interest by contractors and councils alike across the rest of the country.

### ON THE MOVE

**DUNCAN BEGLEY:** From assistant superintendent Nelson Bay Golf Club, NSW to superintendent Horizons Golf Resort, NSW.

**ANDY BOSWELL:** From assistant superintendent Mt Coolum Golf Club, Qld to superintendent Nambour Golf Club, Qld.

**GLENN GIBSON-SMITH:** From superintendent Riverside Oaks Golf Club, NSW to superintendent The Glades Golf Club, Qld.

**MATT GOODBUN:** Resigned as superintendent Newcastle Golf Club, NSW.

**BEN HEDGES:** Resigned as superintendent Kooindah Waters, NSW.

**STEVE LOIACONO:** Resigned as superintendent Woodford Golf Club, Qld.

**EDDY RUIS:** Departed as superintendent Portland Golf Club, Vic.



Gibson-Smith

**KELLIE ROSE**  
CHAIR, STANZ



**C**ongratulations to all the staff involved at The Vintage Golf Club in the Hunter Valley who worked tirelessly and bent over backwards to make us welcome for the 2nd Annual NSWGCSA Trade Show. This year we took on board suggestions proposed by industry trade representatives following last year's two-day event and combined the Ambrose Golf Day with the trade show into one bumper day with the hilarious ventriloquist, Darren Carr and Shaun "I am a superintendent" Probert entertaining the masses to close off another successful event.

As the weather turns and many NSW superintendents try to relax a little following the summer of 2016/17, the association will provide some much needed opportunities for our members to get together with other supers in the state to swap stories at our two walk 'n' talk sessions. The first one will be at Roseville Golf Club on Wednesday 19 July, with host superintendent **Mark O'Sullivan** taking us through the recent projects at his course. Mark was the winner of our Excellence in Turf Management Award last year.

Later in the year, on Tuesday 19 September, we will be heading to Strathfield Golf Club where course superintendent **Paul Keary** will go through the new construction and rebuild works at the club. Both of these events will be free to our members so

I'd encourage as many people as possible to give themselves the time to come along.

Once we receive final confirmation from the PGA, GMA NSW and Golf NSW we will be able to send out the final details of the industry awards evening. The event will be happening in early November and will amalgamate each association's members' awards presentations giving more exposure for the nominees, winners and award sponsors. However, without nominations there can be no winners! Nominations are now open, so please take the time to either download the form and send it through or email your nomination with a brief reason why to [admin@nswgcsa.com.au](mailto:admin@nswgcsa.com.au). Nomination forms have also been sent to the GMA and the PGA, so it may be a good idea to be nice to your general manager and your head pro!

Finally, I am pleased to announce an addition to the NSWGCSA Board of Directors. **David Somerville**, superintendent at Bankstown Golf Club, has joined the committee with immediate effect. The Board will be meeting in late May to debrief on our last event at which time we will discuss what portfolio David's skills will be best suited to.

**STUART GILL**  
PRESIDENT, NSWGCSA

# Come and see the GreensGroomer

Visit us at  
Booth  
No.31

You've heard all the hype.  
Come and see for yourself.

We'll see you at the  
conference.

**DINT**  
Golf Solutions





# SAGCSA



**SAGCSA members visited Thaxted Park Golf Club recently to view the course reconstruction works**

**W**e have all seemed to get through the summer okay in Adelaide, except for a few major storms, with most clubs heading into winter in relatively good shape. Similarly the association is in good shape, invoices for sponsorship have just gone out and we have had a number of events recently and a few coming up for members to attend.

We held a very successful walk 'n' talk session around the new redevelopment being undertaken at Thaxted Park Golf Club. The club is 18 months into a full course reconstruction that has about three more years to go. Golf course architect **Neil Crafter** and course superintendent **James Hyde** showed

the 30 that attended the new holes that have been reconstructed, including the 6th hole that is based on the Road Hole at St Andrews. They also gave us an insight into the future developments before we enjoyed a BBQ lunch at the clubhouse.

As this edition of ATM was going to print we were preparing for the Globe Turf Industry Golf Day at Flagstaff Hill Golf Club (host superintendent **Aaron Kelly**) in late May. Following that we are hoping to travel to the beautiful Barossa Valley for walk 'n' talk sessions at Tanunda Pines, Barossa Valley and Sandy Creek golf clubs in early June before the AGCSA conference at Twin Waters. The SAGCSA AGM in late July will be held at Mt Osmond Golf Club, followed by our annual country trip in early August to Western Australia for the GCSAWA's Margret River Conference.

We have just finished our judging for this year's Graduate of the Year Award which was won by **Matthew King** from the Flagstaff Hill Golf Club. Matthew will represent SA in the final of the AGCSA Graduate of the Year Award sponsored by Toro which will be announced at the Twin Waters conference. We wish him all the best.

**BAZZ BRYANT**  
PRESIDENT, SAGCSA

# GCSAWA



**Royal Melbourne superintendent Richard Forsyth will be a keynote speaker at the GCSAWA Margaret River Conference in August**

**T**he GCSAWA committee has been working hard organising speakers and events for the biennial Margaret River Conference which will be held from Sunday 6 to Wednesday 9 August, 2017. There is a lot of interest in this year's conference, to be held at the Margaret River Hotel, and we have some fantastic keynote speakers lined up.

Confirmed speakers include **Richard Forsyth** (superintendent Royal Melbourne Golf Club), **Nathan Bennett** (superintendent Royal Adelaide Golf Club) and **Andy Wood** (superintendent Kauri Cliffs, NZ). Richard's club has recently been confirmed as host of the 2019 Presidents Cup, while Nathan and his crew recently hosted the 2017 ISPS Handa Women's Australian Open to much acclaim. Other speakers will include local superintendents, assistants and apprentices. As always this is an event not to be missed, with additional knowledge gathered from the networking.

Costs have been kept to a minimum and include all accommodation and meals for the three days. Accommodation is twin share with single rooms available at an extra \$300 per person for three nights. Due to the expected interest in this year's event single rooms are limited.

More immediately, the 2017 GCSAWA Management Challenge will be held at the Sun City

Country Club (host superintendent **Brad Anderson**) on Monday 12 June. The Management Challenge has been held for over 25 years and is recognised as the GCSAWA's major event for the year. It was introduced to encourage and foster good relations between club officials and managers in an informal social manner.

The event is a four ball Ambrose with the playing group consisting of course superintendent, general manager, club president/board member and greens chair. We hope as many clubs as possible will support this year's event


The GCSAWA were disappointed the scheduled day at Lake Karrinyup Country Club on Wednesday 3 May had to be cancelled due to ill health of guest speaker **Robert van Spingelen**. We hope Robert has recovered well and look forward to the GCSAWA, in conjunction with Globe, setting another date for a presentation.

Finally, congratulations must go to GCSAWA life member **Trevor Strachan** on his appointment as the new course superintendent at Mt Lawley Golf Club in Perth. It's so good to see one of the best in the industry carrying on his career.

**NEIL GRAHAM**  
PRESIDENT, GCSAWA



Visit [rainbird.com/DefendYourTurf](http://rainbird.com/DefendYourTurf) to watch a video about how top courses like The Club at Admirals Cove are getting more from their irrigation—and their turf.

Follow us @RainBirdGolf 



## Using real-time diagnostics to prevent real-big problems. That's intelligent.



### Rain Bird innovation gives The Club at Admirals Cove total control.

When The Club at Admirals Cove decided to renovate in 2015, they chose the Rain Bird® IC System™ for its real-time diagnostics and single-head control. From running instant pass/fail tests and voltage checks to quickly controlling individual rotors from anywhere, they have the power to defend their turf with Rain Bird.



Mac Ross • [mross@rainbird.com.au](mailto:mross@rainbird.com.au) • 0427 720 139 • NSW, Tasmania, South Australia, New Zealand  
Paul Woloszyn • [pwoloszyn@rainbird.com.au](mailto:pwoloszyn@rainbird.com.au) • 0409 115 000 • Victoria, Queensland, Western Australia

1800 RAIN BIRD (1800 724 624)

# RAIN BIRD®





# Keeper of the greens (and bees)

Being a greenkeeper  
is stressful at the best  
of times. Long-serving  
Medway Golf Club  
superintendent Col  
Winterton has sought  
solace over the years in  
another form of 'keeping'.

Since the 1980s Col Winterton has developed a passion for beekeeping. He currently has some 35 hives in locations across city and country Victoria



**M**y interest in bees and beekeeping stems from my father who first caught and sold swarms of bees to a Gippsland beekeeper in the 1930s. When we purchased a property in northern Victoria in the 1980s, he bought some hives and I decided to join in for the ride. Incidentally, my father (now 95 years young) still has a hive in his backyard that keeps him hands on and in a supply of honey.

From the very first day I became absorbed in these marvellous little creatures. I took myself off to the local TAFE to do the beekeeping unit in agriculture, with the practical component undertaken at Collingwood Children's Farm. The more you open a hive the more you learn. You become immersed in their industry, their adaptation to environmental changes and their structure. You quickly learn that most human interference is not always in the best interests of the colony.

There are different activities in each season and the seasons alter almost every year (i.e.: late or early). Honey stored in a good season is for the bees to consume in the winter when flowers are scarce, and if stores are light going into winter we will feed them to get them through. The bees consume the honey for nutrition and to maintain hive temperature (around 35°C).

A productive hive will contain a 'queen' who can live up to five years and whose sole purpose is as an egg-laying machine – 2000-plus a day in good conditions. The hive also contains several hundred 'drones' or male bees. Their sole purpose is to mate with the queen after which they die; if mating doesn't occur they are heaved out of the hive in autumn to die which saves the honey stores. Interestingly, the



drone is born from an unfertilised egg and as such has a grandfather but no father! There are also up to 50,000 'worker' bees, all females, who do all the work in a hive and live for just six weeks 'in season'.

Working bees for me in the main is a solitary pursuit. When I am 'working the hives' I am at my most relaxed and stress free and I become totally absorbed in their activities. You cannot, however, allow your mind to wander; it is a mistake not to be switched on as the bees can sense this in you and have a little fun at your expense. Beekeeping clears the mind, takes your focus away from all the worries of the world that you think you have. In short, it's extremely therapeutic.

Along with my brother, we have a small business going that manages hives for others and also supplies honey for the local niche market. In all we have around 35 hives in 10 locations city and country, including rooftop hives in the Melbourne CBD. I have kept a few hives at Medway Golf Club for 25 years. They are great barometers of climate and are certainly a consideration when programming spray applications.

The honey harvest from each site has a different flavour and colour due to the differing floral sources and each site produces a surplus at differing times. Last season we harvested just over a tonne of honey, so it can be quite a time-consuming albeit very enjoyable hobby which occupies most weekends during the honey season.

Each year during the Royal Melbourne Show I manage the live bee observation frames on the Victorian Apiarists Association stand. My wife and I also help out on the stand which provides information on beekeeping, a live bee cage and varietal honey for sale that is not usually sold in supermarkets.

The interaction with show visitors is fantastic and together with conferences and field days over the years I have had the opportunity to meet many great people, both commercial and hobby beekeepers, who share the same passion. Sounds familiar doesn't it – just like turf management! 🐝



# UNIVERSAL, BI-DIRECTIONAL GROOMERS **FOR GREENS** and **FAIRWAY MOWERS**



Standardised to fit the Dual Precision Adjustment (DPA) greens mower cutting units, as well as a 5 and 7 inch diameter Reelmaster DPA cutting units, the innovative groomer product line brings an all-new feature to the market. It offers three drive modes: forward rotation, counter rotation and neutral. The quick implement change-out feature also provides a simple solution to switch attachments. They are also a gear drive groomer for extra durability and low maintenance. These combined features allow you to tailor your turf maintenance practices depending on conditions and seasons. For an added enhancement to Toro's renowned after-cut appearance, rear roller power brushes can be fitted as an option for the universal groomer or stand-alone without the universal groomer.



## **GREENS MOWER**

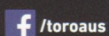
- 21 inch Carbide Groomer
- 21 inch Spring Steel Groomer
- 21 inch Thin Blade Groomer
- 21 inch Soft Grooming Brush
- 21 inch Stiff Grooming Brush

## **REEL MOWER**

- 22 inch Grooming Brush
- 22 inch Groomer
- 22 inch Groomer with Broomer

For more information, call 1800 356 372 or contact your Toro Golf Area Sales Manager.

[toro.com.au](http://toro.com.au)



/toroaus



/toroaus



/toroaustralia

**TORO.**



# Irrigation Water Systems featuring HYDROVAR®

**Create a variable speed booster station to your technical specifications.**

By utilising the well proven Lowara e-SV™ multistage pump and Hydrovar variable speed drives, you gain an efficient and robust system. You can create a booster set with up to eight vertical multistage pumps that are all controlled by Hydrovar frequency drives fixed directly on the electric motor of each pump. These systems can maintain constant pressure and optimized pumping efficiencies over wide flow ranges.

**A selection of golf courses that have installed pumping systems with HYDROVAR®:**

## Australia

- Ballarat
- Bannockburn
- Barwon Heads
- Bermagui
- Bowral
- Box Hill
- Brookwater
- Cape Schanck
- Charlestown
- Clifton Springs
- Criagieburn
- Curlewis
- Dorsel
- Drovin
- Druin
- Elcho Park
- Emerald Lakes
- Eynesbury
- Garfield
- Goondiwindi
- Hidden Valley
- Kingston Heath
- Koohindah Waters
- Latrobe
- Marysville
- McLeod
- Melton
- Metropolitan
- Monash
- Montuna
- Morebank
- Moss Vale
- Muirfield
- Ocean Grove
- Ocean Shores
- Pacific Dunes
- Perigian Springs
- Rich River
- Richmond
- Ringwood
- Riverside
- Rockhampton
- Royal Melbourne
- Rosebud
- Rossdale
- Settlers Run
- Shell Cove
- Shell Harbour
- Shoal Bay
- Shoalhaven Heads
- The Goowa
- Tirhatuan Park
- Trafalgar
- Tuggerah Lakes
- Virginia
- Wyong

## New Zealand

- Akarana
- Auckland
- Cape Kidnappers
- Carrington
- Clarke's Beach
- Formosa
- Grange
- Hamilton
- Howick
- Huapai
- Jacks Point
- Kaitia
- Karori
- Kauri Cliffs
- La Pointe
- Mangawhai
- Matarangi
- Muriwai
- Napier
- New Plymouth
- Omaha Beach
- Omokoroa
- Onewai
- Pauanua Lakes
- Russley
- Sherwood
- Taupo
- Te Awha
- Te Puke
- The Hills
- Titirangi
- Waikanae
- Waipa
- Wanganui
- Wellington
- Western Bay
- Whangarei



Lowara's extensive pump range together with Hydrovar, can offer a complete line of booster systems ideally suited for the diverse requirements of the turf and landscape markets and for golf courses in Australia and New Zealand.



**Brown Brothers  
Engineers  
Australia Pty Ltd**

**Australia:** 1300 4 BBENG [www.brownbros.com.au](http://www.brownbros.com.au)

**New Zealand:** Christchurch (03) 365 0279 Auckland (09) 525 8282  
[www.brownbros.co.nz](http://www.brownbros.co.nz)

**DELIVERING PUMPING SOLUTIONS**