

CELEBRATING THE EFFORTS OF AUSTRALIA'S TURF MANAGEMENT PROFESSIONALS

AUSTRALIAN

ISSN 1442-2697 www.agcsa.com.au

Turfgrass

VOLUME 20.2 MAR-APR 2018

MANAGEMENT JOURNAL

XXI Commonwealth Games Carrara Precinct's fast-track transformation

Life exchange

From Ohio interns to life partners

Serving it up

Swan Hill aces Country Week

Classic conditioning

Kooyonga and Bonville a cut above



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

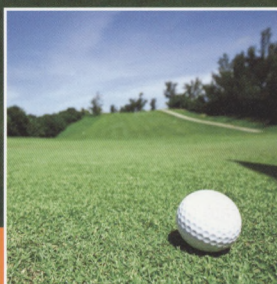
fairway MaxMini

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



NUTURF

SPECIALISTS PROVIDING SOLUTIONS

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

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

Brett Robinson
 Office: (03) 9548 8600
 Mobile: 0434 144 779
 Email: brett@agcsa.com.au

Advertising

Mark Unwin
 Office: (03) 9548 8600
 Mobile: 0438 320 919
 Email: mark@agcsa.com.au

Art Direction & Design

Jo Corne
 Office: (03) 9548 8600
 Email: 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
 W: www.agcsa.com.au

www.facebook.com/our.agcsa

www.linkedin.com/in/agcsa-australia-289055127

www.instagram.com/ouragcsa/

[@AGCSA2](https://twitter.com/AGCSA2)

AGCSA Board

President: Brett Balloch
Directors: Chris Burgess
 Peter Lonergan
 Stephen Lewis

Chief Executive Officer

Mark Unwin
 E: mark@agcsa.com.au

Events and Education Manager

Simone Staples
 E: simone@agcsa.com.au

Membership Coordinator

Allison Jenkins
 E: admin@agcsa.com.au

Accounts

Philip Horsburgh
 E: philip@agcsa.com.au

AGCSATech

Bruce Macphee (Environmental Agronomist)
 E: bruce@agcsa.com.au
 Tim Fankhauser (Agronomist)
 E: tim@agcsa.com.au



Printed By

Southern Colour Pty Ltd
 2 Southpark Close
 Keysborough
 Vic 3173

Copyright © 2018

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

Bonville Golf Resort: The closing hole at Bonville Golf Resort, NSW which recently hosted the inaugural Australian Ladies Classic. **Photo:** Brett Robinson, AGCSA.



LEAD STORY: Fast-track transformation

6

Between 4-15 April 2018, the Gold Coast played host to the XXI Commonwealth Games. It was the fifth occasion that Australia has hosted the Commonwealth's best athletes and the second time in 12 years after Melbourne in 2006. Carrara Stadium (or Metricon Stadium as it's known during the AFL season) was transformed into the main stage for the Games, while the adjacent sporting complex also underwent a major overhaul. SPORTENG's Jarrod Hill gives ATM an inside look at the process to transform Carrara from an elite AFL venue to Commonwealth Games centrepiece and then back again.

FEATURES

Classic Kooyonga

12

For the third consecutive year Adelaide played host to the ISPS Handa Women's Australian Open in February, with Kooyonga Golf Club following in the footsteps of The Grange and Royal Adelaide. For course superintendent Richard James, who arrived at the club just six months before the tournament, it was his second bite at the Open cherry.

Life exchange

18

The Ohio Program has changed the lives of many young aspiring greenkeepers, but as ATM editor Brett Robinson discovers it had a far greater impact for Adam Fry and Susana Oliveira.

Swan Hill serves it up

24

In February, the Swan Hill Lawn Tennis & Croquet Club hosted more than 1200 players across 93 grass courts for Tennis Victoria's Country Week. Curator Dan Gardner provides an insight into the work that goes into preparing the courts for one of the country's biggest tennis tournaments.

Bonville blows them away

30

The stunning Bonville Golf Resort near Coffs Harbour hosted the inaugural Australian Ladies Classic in late February. For course superintendent Chris Neal and his dedicated crew it was the perfect opportunity to showcase one of Australian golf's most spectacular layouts at its very best.



Maitland made

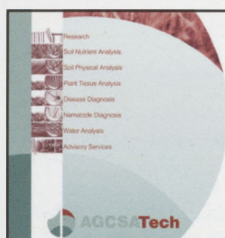
38

Brian Worboys and Keith McPhee write about the major redevelopment of Maitland No.1 Sportsground which was christened in February with an NRL trial match between Parramatta and Newcastle.

Cutting back

50

Golf course maintenance is a costly exercise, but tough times shouldn't mean reckless cuts to operating budgets to appease the bottom line. USGA agronomist Bob Brame identifies five key mistakes to avoid.



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. bruce@agcsa.com.au
tim@agcsa.com.au

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

A critical partnership

62

National Turf Education Working Group co-chair Albert Sherry writes about the importance of the partnership between education provider, student and employer when it comes to turf management training.

COLUMNS



GRASS-ROOTS WITH JOHN NEYLAN Shady business

42

John Neylan reviews the comprehensive research undertaken at Avondale Golf Club which has demonstrated the impacts that shade and low light has on turf quality, turf density and root growth.



ENVIRONMENTAL MANAGEMENT WITH KATE TORGENSEN

54

ATM's new environmental management columnist Kate Torgersen looks at the recent course improvement and revegetation works undertaken at Commonwealth Golf Club.



HR MANAGEMENT WITH VICKI CROWE

56

Vicki Crowe looks at the delicate task of negotiating a pay rise and provides an update on recent variations to overtime rates and minimum shift entitlements under the Registered Clubs Award.

Also in this edition...

Foreword Thinking	4
Projects – Woodlands Golf Club, Vic	58
Regional Profile – Thredbo GC, NSW	64
Around the Trade	70
Association Reports	74
Up the last...	80

Contributors to Australian Turfgrass Management Journal Volume 20.2 (March-April 2018)

Graham Bailey (Thredbo Resort); Addison Barden (USGA); Nathan Bennett (SAGCSA); Bob Brame (USGA); Mal Caddies/Kristy Pratsch (STA Queensland); Vicki Crowe (PGA of Australia); Euan Diver (Thredbo Resort); Adam Fry (Kooyonga GC); Dan Gardner (Swan Hill LT&CC); Tony Guy (STA WA); Jarrod Hill (SPORTENG); Steve Hodson (NZGCSA); Richard James (Kooyonga GC); John Mann (Woodlands GC); Paul McLean (GCSAQ); Keith McPhee (Maitland City Council); Chris Neal (Bonville Golf Resort); John Neylan (Turfgrass Consulting and Research); Mike O'Keefe (Ohio State University); Susana Oliveira (Programmed Maintenance); Mat Poultney (VGCSA); Daryl Sellar (Turfwise); Justin Sheehan (Coffs Harbour GC); Albert Sherry (NTEWG); STA Victoria; Kate Torgersen (Environmental Golf Solutions); Mark Unwin (AGCSA); David Warwick (Avondale GC); Menik Wijekoon (SPORTENG); Brian Worboys (Maitland City Council); Jenny Zadro (Turf Australia).

Giving back

All too often in our profession we hear of course superintendents and turf managers unceremoniously removed from their roles after many years of service. It is a fickle business at best and in my time with the AGCSA I have seen many excellent practitioners maligned by committees and boards of management. Only a select few have had the opportunity to bow out on their own terms and while still at the top of their game; they are the lucky ones.

Praise and recognition of what is a very unique and challenging role is often hard to come by. It was therefore great to see the manner in which Glenelg Golf Club in Adelaide recently farewellled Daryl Sellar after 18 years' service. Surrounded by family, friends, Glenelg members, the crew and turf industry colleagues, it was a great night where due recognition was given to the indelible mark Daryl's tenure has left on the club.

While it was a chance for the club to pay tribute to that, it also gave Daryl the opportunity to express his gratitude to the club and the integral role it played in his development, not only as a turf manager but as a person. Listening to Daryl's back story was quite fascinating and highlighted the important role sporting clubs can and often do play in the local community.

You see, when Daryl was just 12 he lost his mother. Although mad on cricket and football, it was through golf that he found an outlet, playing a sport which afforded him the solitude to clear his young mind and process the tragedy that had befallen him and his family. Taken under the wing of some Glenelg members and given lessons by one of South Australia's best in Murray Crafter, Daryl soon became a pretty handy golfer. He would go on to represent Australia at amateur level as a 17-year-old and was a lynchpin for the Glenelg pennant team for many seasons, winning a coveted Simpson Cup in the process.

Golf wasn't going to pay the bills however and with his love for golf he approached then Glenelg superintendent Darrell Cahill who, after consulting Daryl's father to see if it was the right decision for the youngster, duly put him on as an apprentice. Completing that and following stints at a few other courses and then Cooper's Turf Supplies, Daryl would return to Glenelg in 2000 to take over from 'DC'. In the 18 years that followed, Daryl oversaw numerous course works and projects all of which elevated Glenelg on so many levels.

As Daryl stated during an emotional farewell speech, his time as Glenelg superintendent was not only professionally rewarding but personally as well. It gave him the opportunity to give something back and repay the faith the club had shown him all those years ago. As he commented, "I didn't need saving as a kid, but boy I got protected and there were a lot of people looking out for me; I will always be grateful to the club for that."

In among the many thanks and good-natured payouts on the night, Daryl also gave special mention to the committees and management he had served over the years. In doing so he made a very poignant remark, one that many other clubs could do well to take on board. "Thanks for your trust," Daryl stated. "I often tell people when they visit Glenelg the autonomy we have in what we manage out there on the course. It displays an enormous level of trust in what we as greenkeepers are doing and that, in turn, instils a level of excellence in the staff. The club has done that all of the 18 years I have been here and for that I am very grateful."

Daryl has been a terrific source of knowledge and wise counsel for me in my role with the AGCSA over the years and to see him recognised on the night was very satisfying. Congratulations mate on a fine tenure and all the best for the next chapter. Enjoy the read...



Brett Robinson

Brett Robinson, Editor

AUSTRALASIAN TURFGRASS CONFERENCE & TRADE EXHIBITION WELLINGTON: 24TH-29TH JUNE 2018 www.atc2018.com



Business
Events
Wellington
WellingtonNZ.com



100% PURE
NEW ZEALAND
newzealand.com

AGCSA member survey critical component in FWC submission



In what has been a hectic first few months of 2018, the AGCSA has continued to progress well with a number of initiatives underway that will deliver benefits to our members as we move through the year.

First though, some important news following on from my note in the last edition (Volume 20.1 – January-February 2018) relating to the proposal put forward by parties representing licensed and registered clubs to the Fair Work Commission. As mentioned, this action is pursuing an amendment to various industry employment Awards, including the Registered and Licensed Clubs Award and the Hospitality Award, and has proposed changes to conditions and penalty rates.

The AGCSA, on behalf of all members and state associations, is preparing a submission for presentation to the Full Bench of the Fair Work Commission in July, to outline our concerns with the proposed changes and present our committed opposition to changes that will impact our members' working conditions.

In mid-March, the AGCSA sent out an important survey to members designed to assist us in understanding the potential impact these changes may have on course maintenance and turf management employees. The information collected will be primarily used to develop a submission to protect conditions and penalty rates within the Awards.

In order to understand the impact of proposed changes to the employment Awards, it is vital that we receive as much information as possible. Therefore I would ask if you haven't already done so to complete the survey prior to the end of April so that we can collate and prepare our submission in early May.

On to lighter topics, and the end of March saw another successful **AGCSA Future Turf Managers' Initiative (FTMI)** completed in conjunction with Gold Partner **Textron Golf**. The 20 attendees from Australia and New Zealand spent three days in Melbourne, learning from industry professionals and keynote speakers on topics including leadership, management, budgeting and communication. A full wrap of another very successful programme will be featured in the May-June 2018 edition of ATM.

Our thanks must go to the attendees for their enthusiastic approach, the four superintendent mentors (**Leon Hennessy, Travis Scott, Lincoln Coombes** and **Leo Barber**) for their continued advice and guidance, and of course to Textron Golf/Jacobsen for their commitment to developing our future course superintendents.

Just prior to the FTMI, the AGCSA team spent time over in Wellington, New Zealand as preparations continue for the **Australasian Turfgrass Conference and Trade Exhibition (24-29 June 2018)**. In conjunction with an impressive range of speakers and topics for the event, the venues that our education sessions, networking functions and trade exhibition will be hosted in are first-class and should make for an outstanding conference.

Registration numbers are very strong early, while the trade exhibition is nearly sold-out. If you haven't yet registered we encourage you to act quickly to ensure you don't miss out on your preferred workshops or seminars. A range of information and resources is available on the dedicated conference website – www.atc2018.com – including a **Conference Justification Resource Kit** for members looking to commence conversations with their club about attending.



Turf Drain
Australia

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



The AGCSA is also taking nominations for the 2018 AGCSA Awards which will be announced at the conference. We encourage you to nominate yourself, your club or a peer that you believe is worthy of recognition throughout the industry. Nominations are now being accepted for the following Awards:

- Claude Crockford Environmental Award;
- Excellence in Golf Course Management;
- Distinguished Service Award.

And finally, in addition to all the above, the AGCSA has started work on the development of an updated website (www.agcsa.com.au) and member management system. Work has been underway since before Christmas to deliver a fresh new look and feel to the site, intuitive navigation and ensure we keep members and the industry updated with news, events and access to industry-leading education and management resources. The design and functionality has been developed and is currently undergoing testing, with the plan to launch the new website in mid-April. Keep an eye on The Cut for launch announcement details.

So far 2018 has been a busy one, with more exciting developments underway which we'll share with members over the course of the next few months leading into the conference. As always, please feel free to reach out to the team at the AGCSA if there is anything you need. 🙏

SAYING THANKS

Golfers in Australia have a lot to be thankful for. From both a course management and design perspective, we are home to some of the most magnificent courses in the world. Golfers are fortunate to enjoy these world-class facilities thanks to the efforts of our course superintendents and their teams who strive to present the best playing conditions possible with the resources they have.

To acknowledge such wonderful endeavour, the AGCSA is launching 'Thank a Superintendent Week'. To be conducted from 14-20 May 2018, the campaign is designed to highlight to clubs, members and the golf industry as a whole the huge amount of dedication and passion that golf course superintendents and their teams have when it comes to managing and maintaining golf courses. The campaign is a way to demonstrate due recognition to the integral role our members play in the game we all love.

The campaign will be supported by a range of news releases, social media posts and promotion throughout the golf industry, so make sure you stay tuned for more information through our website www.agcsa.com.au, The Cut newsletter and AGCSA social media sites #ThankASuperAUS #OurAGCSA.



PREMIUM PARTNERS

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



GOLD



SILVER

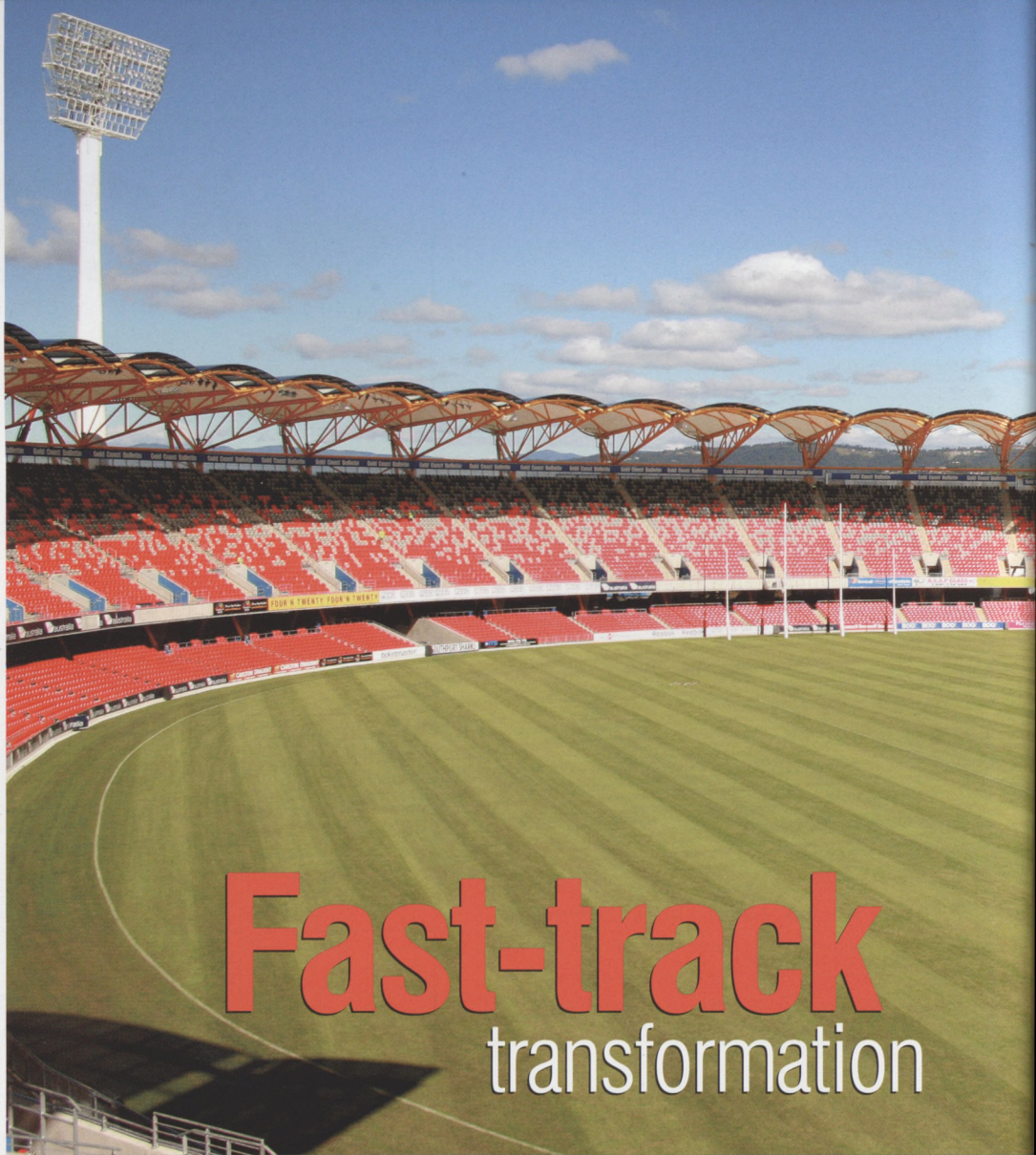


JOHN DEERE



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

Opened in 2011, Carrara Stadium on the Gold Coast was specially designed so that it could accommodate an international standard athletics track for events such as the Commonwealth Games



Fast-track transformation

On 11 November 2011, the Commonwealth Games Federation announced that the XXI Commonwealth Games would be hosted by the Gold Coast after it beat Hambantota in Sri Lanka 43 votes to 27. It is the fifth time that the Games have been hosted in Australia, the last time being Melbourne in 2006.

The planning for international sporting events requires the use of a range of 'field of play' facilities. Often these facilities are required to be temporary overlay installations due to the cost of constructing new standalone structures. The planning for the 2018 Commonwealth Games included the construction of several permanent 'new build' facilities that would be retained as part of the legacy programme for the Gold Coast and Brisbane regions.

The Games also included several temporary overlay field of play facilities including the competition and warm-up athletics track and field facilities, both of which were located at the Carrara Sports Precinct. The competition track and field facility was constructed within Carrara Stadium (known as Metricon Stadium during the AFL season), while the warm-up track and field facility was constructed on the Carrara Elite Training Field adjacent to the main stadium.

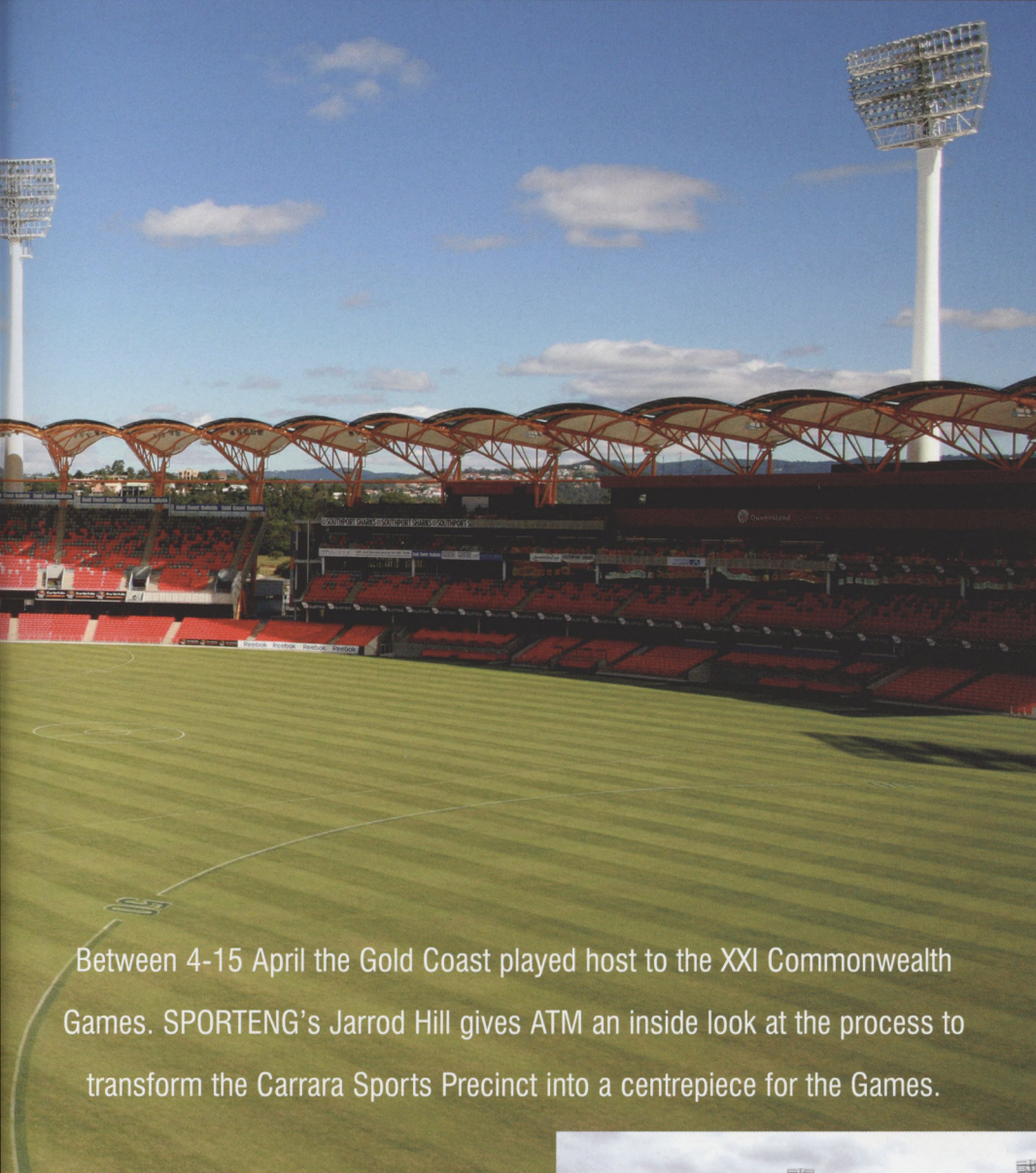
CARRARA REDEVELOPMENT

In 2009 the Queensland Government announced that the existing Carrara Stadium would be demolished and a new \$126 million stadium constructed in its place. As part of the redevelopment project a new natural turf playing arena was included. SPORTENG staff were responsible for the design of the playing arena which was planned to accommodate AFL games, ICC-sanctioned cricket matches and also to enable the construction of a temporary athletics track and field facility.

During the design for the stadium structure, allowance was made for an athletics track to be constructed within the main arena, should it be required in the future. This was accommodated by designing the lower bowl of the northern grandstand to be removable, therefore increasing the length of the arena to fit an International Association of Athletics Federation (IAAF) compliant track.

The design for the stadium's natural turf playing surface consisted of a perched water table profile with a domed surface shape. The subsurface drainage layout consisted of herringbone subsoil pipe layout in a spider-web configuration. The redevelopment started in late 2009 and the stadium hosted its first AFL game in May 2011.





Between 4-15 April the Gold Coast played host to the XXI Commonwealth Games. SPORTENG's Jarrod Hill gives ATM an inside look at the process to transform the Carrara Sports Precinct into a centrepiece for the Games.

CARRARA ELITE TRAINING FIELD

The development in 2016 and 2017 of the Carrara Sports & Leisure Centre, located adjacent to Carrara Stadium, included the construction of a natural turf elite training field. The footprint of the field was designed large enough to incorporate an AFL oval with a two FIFA-size soccer pitch overlay. The Gold Coast Suns Football Club would use the field as a training oval, while Gold Coast City Council would utilise the two soccer pitches for use by local teams.

Unlike Carrara Stadium (2009), the design for the elite training field commenced with the knowledge that the Gold Coast had won the rights to host the Commonwealth Games and that the Carrara Sports Precinct would be the focal point for the event.

Recognising that the warm-up track would be constructed within the footprint of the elite training field, it permitted allowances to be made in the design for the future athletics track overlay. For example, the irrigation and drainage designs were intended to accommodate both scenarios – a natural turf playing surface and an athletics track overlay.

The irrigation for the elite field was designed to suit the infield of the athletics track. This sprinkler spacing and configuration for the athletics track infield was then expanded to encompass the full



footprint of the elite field. When it came time for the construction of the Games warm-up track, the sprinklers within the infield were retained, while the other sprinklers beneath the track pavement were capped. Pipes crossing beneath the athletics track were isolated via shut-off valves so all pipework was retained. Additional quick coupling valves were added to enable hand watering of the infield as well as wetting down the long and triple jump landing pit.

Similar to the Carrara Stadium drainage system, herringbone subsoil pipe layout in a spider-web configuration was adopted. However, the collector pipes were configured so that they would pass under the location of the future athletics track trench grate outlet sump pits. The collectors were also upsized to accommodate run-off from the track.

Working closely with the head contractor, SPORTENG designed a temporary pavement profile upon which the Commonwealth Games athletics track would be laid. Pavement tolerance trials were conducted to ensure it met IAAF requirements



PHOTO: EVERGREEN TURF

Development of the Carrara Elite Training Field in 2016-2017. This ground was transformed into the warm-up athletics track (pictured below) for the Games



PHOTO: NEARMAP

Paving the main competition track within Carrara Stadium



The perched water table profile was domed like Carrara Stadium, however, the camber of the dome was less to simplify the interface with the athletics track's constant level inner kerb line. The turf was laid in late 2016 and was ready for use in early 2017.

GAMES ATHLETICS TRACK OVERLAY

Construction of a permanent athletics track normally consists of a flexible granular pavement, like that of a road pavement, with a thickness of typically no less than 300mm and a design life of at least 20 years. Given the Games' duration and the temporary nature of the athletics tracks, this permanent construction was considered excessive and expensive. Furthermore, the construction and deconstruction period prohibited activities either side of the Games.

On the back of the temporary athletics track and field facility construction within the Melbourne Cricket Ground (MCG) for the 2006 Commonwealth Games, a similar design philosophy was followed; utilise the load-bearing capacity of the existing playing surface rootzone sand to efficiently construct the temporary athletics track pavement and use existing in-ground infrastructure (i.e.: drainage and irrigation) to minimise trenching works.

There were numerous lessons learnt from the construction of the 2006 Melbourne Games' athletics track that were used in the designing of the Gold Coast facility. Paving a thick multi-layered asphalt pavement directly onto the moisture conditioned existing rootzone sand was problematic and time-consuming. Working closely with the project head contractor, SPORTENG designed the pavement to instead consist of a thin layer of crushed rock over a geotextile which then overlaid the moisture conditioned existing rootzone sand. With this base pavement, two regular thickness layers of asphalt were paved.

To validate that this type of construction methodology would suffice for the intended use, and to convince the client that it would be suitable for a Games situation, a pavement trial was conducted utilising the proposed temporary pavement profile. A trial pavement was constructed adjacent to the elite training field which included a section containing shallow conduits.

The pavement trial tolerances were checked post-curing of the asphalt layer and then exposed to the passing of loaded tip trucks to monitor the pavement performance and tolerances under heavy vehicular traffic. The tolerances were again checked after the vehicle loading and were still IAAF compliant. The ovality of the conduit crossing was also checked. The trial was successful and accepted as the solution for both track constructions.

PRE-GAMES

With the pavement profile accepted, construction works commenced. The construction programme was staggered to complete the warm-up athletics track and field facility first, followed by the competition track and field facility. The rationale behind this was that any learnings coming from the warm-up track could be corrected for the competition track construction.

For both fields of play, the first step was the removal of the organic layer (approximately 100mm-150mm thick) from the existing natural turf playing surface to expose the underlying organic matter-free rootzone sand layer.

The dome shaped playing surface of both fields of play were not conducive for an athletics track surface, which grades in the opposite direction (i.e.: a track falls from the outside lanes to the natural turf infield, creating a concave dish-like shape). The exposed rootzone sand was therefore reshaped to achieve the required levels and grades for the construction of the temporary athletics track pavement.

The geotextile was laid over the reshaped rootzone sand to improve the stability of the layer. The geotextile also acted as a barrier to minimise contamination from the overlying crushed rock layer and improves the ease of removing the pavement once the Games have finished.

The thin layer of crushed rock (150mm) was placed and compacted on top of the geotextile. A

concrete slab was constructed for the main vehicle entry to the infield to cater for the large vehicles used for the Opening Ceremony setup. Two layers of asphalt – a base layer and a control/wearing course layer – were paved on top to ensure the required tolerances were achieved.

The athletics track and in-field drainage for both the warm-up and competition facilities discharged into the existing drainage infrastructure. Sump pits for the athletics track trench drain were located above collector pipes. Where there were no collector pipes within the vicinity of a required drainage discharge point (i.e.: field events), the element released directly into the free-draining properties of the existing rootzone sand layer, which was located beneath the temporary pavement.

The existing irrigation for the Carrara Stadium natural turf surface was modified to suit the athletics track overlay. The irrigation system ring main and lateral pipes were retained beneath the proposed track surface. Sprinklers located beneath the footprint of the athletics track and non-competition pavement were removed and capped, while the sprinklers located within the athletics track infield had to be slightly adjusted to maintain the turf during the Games.

The in-ground services (i.e.: electrical, communication, data, etc...) required for the Games were trenched into the existing rootzone sand and had minimal cover (less than 300mm). Due to the reduced cover over the conduits, protection boards were positioned directly over the placed conduits to provide the required mechanical protection.

In several cases, the minimal cover conduits crossed beneath the athletics track. To verify that the conduits would withstand the compaction works for the construction of the pavement, a section of the pavement trial included conduits installed with protection boards. This was successfully verified in the pavement trial.



TRIAL EVENT

With the competition track successfully laid, the facility was required to host a trial event to iron out any glitches before the Games.

From 15-18 February, Carrara Stadium played host to the 2018 Australian Athletics Championships and Nomination Trials. The event doubled as the final opportunity for Australia's track and field athletes to earn a place in the Australian Commonwealth Games team, with a total of 51 subsequently being named. The trial went off without a hitch, with the infield turf down long enough to be sufficiently established for the event.

OPENING CEREMONY

The Opening Ceremony for the Games was held on Wednesday 4 April at Carrara Stadium. In preparation for the ceremony, the athletics track was covered by protective sheeting and boarding. With stage works for the ceremony down for almost a month before the event, maintaining a natural turf infield was not at all possible. Therefore, the design required the use of 'ready-to-play' turf for the transition from Opening Ceremony to athletics track infield.

The main competition track had two layers of asphalt paved. Pictured below are the mechanically protected shallow in-ground service conduits and pits



SR 5250

STRONG CREEPING RED FESCUE

SR 5130

CHEWING FINE FESCUE

SR 3150

HARD FESCUE

SR 3210

BLUE FESCUE

SHORELINE

SLENDER CREEPING RED FESCUE



Cape Wickham Links, King Island. 1st tee.

Traditional links grasses the choice at Cape Wickham Links, King Island



For the name of your nearest distributor call (03) 9462 0340 www.adseed.com.au



Following the trial event in February, the infield turf was removed to a depth of 40mm and the rootzone covered with a protective geotextile membrane. Immediately after the Opening Ceremony, HG Sports Turf's Eclipse Stabilised Turf will be laid in preparation for the field events

At midnight on the day that the trial event had finished, the natural turf for the competition track infield was harvested and removed to a depth of 40mm. This depth was used to align with the thickness of the 'ready-to-play' turf. The exposed rootzone sand was then covered with a protective geomembrane to prevent contamination from the ceremony stage.

HG Sports Turf was awarded the contract to supply turf for the Commonwealth Games and post-Games resurfacing. They established 20,000m² of their proprietary Eclipse Stabilised Turf at a farm located north of Brisbane. Turf for the infield was transported to the stadium post-Opening Ceremony and established over a 24-hour period in time for the first field events on Sunday 8 April.

POST-GAMES

The Closing Ceremony for the Games was held on 15 April 2018. The intended first use for Carrara Stadium post-Games is the Round 11 AFL clash between Gold Coast and Geelong on Saturday 2 June, just 49 days post-Games. A lot of work is required to get Carrara Stadium back to an elite natural turf playing surface required for AFL.

The key elements for the Games deconstruction and natural turf playing surface reconstruction are;

- Careful removal of the athletics track surface and equipment for reuse at legacy locations;
- Mill back and dispose off-site asphalt layer;

- Excavate and remove off-site for reuse the crushed rock pavement as recycled material;
- Trim and remove off-site for reuse the contaminated rootzone sand layer;
- Harvest infield turf and return to farm;
- Adjust in-ground services;
- Import rootzone sand and level to the desired camber (at this point it will be about three weeks post-Games); and
- Returf with 18,000m² of Eclipse Stabilised Turf.

GAMES LEGACY

Prior to being awarded the Games, the Queensland Government bidding team identified what facilities were required post-event to be used by the local community as a legacy and which facilities would become white elephants should they be retained.

It was identified the athletics track and field facilities would not be required post-Games. The competition track within Carrara Stadium could not be retained as it was required to be converted back to a natural turf oval. The Gold Coast presently has several athletics tracks that had been resurfaced in the lead up to the Games, so the retention of the warm-up facility as a legacy post-Games was considered redundant.

The Games' planning committee therefore decided that the rubber surface system from both the competition track and warm-up tracks would be removed post-Games and used at another venue, or several venues, within the region. Therefore, the surface needed to be an IAAF approved, prefabricated product that would allow for it to be carefully rolled up reused.

Past experience of similar removal processes suggests that around 80 per cent of the track is salvageable. The two tracks combined would be sufficient for a new single track and field facility, or could be distributed to several schools and other sporting clubs for sprint tracks. The final decision on where the salvaged product will be reused has yet to be confirmed. The redundant road base materials and excess rootzone sands will also be salvaged and used as recycled construction material. 🏗️

GOLD COAST 2018 – BY THE NUMBERS



- **4-15:** Gold Coast hosted the XXI Commonwealth Games from 4-15 April.
- **5:** The number of times Australia has hosted the Commonwealth Games. Others were Sydney (1938), Perth (1962), Brisbane (1982) and Melbourne (2006).
- **12:** Number of times Australia has topped the medal tally in the previous 20 Games.
- **17:** Number of venues. They included Carrara Stadium (athletics, opening and closing ceremonies), Broadbeach Bowls Club (lawn bowls), Robina Stadium (rugby sevens) and Gold Coast Convention Centre (basketball and netball).
- **20:** Number of sports contested at GC2018. Sports include athletics, badminton, basketball, beach volleyball, boxing, cycling (mountain biking, road and track), diving, gymnastics (artistic and rhythmic), hockey, lawn bowls, netball, para powerlifting, rugby sevens, shooting, squash, swimming, table tennis, triathlon, weightlifting and wrestling.
- **21:** GC2018 was the 21st Games.
- **70:** Number of nations that competed at GC2018 – Africa (18 countries), Americas (seven), Asia (seven), Caribbean (14), Europe (10) and Oceania (14).
- **137:** Total number of medals (49 gold, 42 silver and 46 bronze) won by Australia at the 2014 Commonwealth Games in Glasgow, Scotland.
- **852:** The number of gold medals Australia has won at Commonwealth Games level.
- **6600:** Number of GC2018 athletes.
- **15,000:** Number of GC2018 volunteers.
- **35,000:** New spectator capacity of Carrara Stadium which was increased from 27,400 to accommodate GC2018.
- **230,000:** Number of kilometres that the Queen's Baton travelled to GC2018.
- **1.5 billion:** Estimated TV audience.

H₂Pro[®]

ICL

Where needs take us

Get a grip on water!

*A complete
new range
with advanced
technologies*



The all new Specialist H2Pro wetting agents. Designed to help you get a grip on your moisture management.

Utilising advanced polymer and surfactant technology, the new range of three specialist wetting agents; H2Pro TriSmart, H2Pro FlowSmart and H2Pro AquaSmart have been carefully formulated and tested to help you achieve better control of your moisture management. Supported by research, backed by end-user testimonial the new range have been designed to achieve specific goals each with a different mode of action.

Advanced new technologies

Each of these wetting agents has been formulated from a different blend of Block Co-polymers and co-formulants, incorporating specialist chemistries to achieve a specific result. The full range allows you to focus your moisture management to your particular needs.

For more details, please visit h2pro.icl-sf.com/au-en/.

Fernland Agencies

globe
GROWING SOLUTIONS
WA only

K&B
ADAMS PTY LTD



Tas Turf Solutions

**TURFCARE
AUSTRALIA**
The turf strength people

Classic Kooyonga

Following in the footsteps of The Grange and Royal Adelaide, Kooyonga flew the flag proudly as Adelaide hosted the ISPS Handa Women's Australian Open for a third consecutive year in February. For course superintendent Richard James, who arrived at the club just six months before the tournament, it was his second bite at the Open cherry.

Richard James isn't one for hyperbole. Like most golf course superintendents he prefers to fly under the radar and although confident in his own skill and ability to present a golf course in top flight condition, he's not one to crow about it.

It was therefore with a few raised eyebrows that the Kooyonga Golf Club superintendent read an article penned by The Advertiser sports journalist Warren Partland in the days leading up to February's 2018 ISPS Handa Women's Australian Open. Under the headline 'Kooyonga in prime condition for Women's Australian Open', Partland wrote that James was "extremely satisfied" with the condition of the course.

A few of James' mates didn't miss the article either. Quick to sink the boot in, the gist of their feedback was, "So, you're 'extremely satisfied' now are you?" Even Kooyonga captain Ken

Russell took great delight in telling everyone around the club that their superintendent was 'extremely satisfied'.

"People who know me know I am *never* extremely satisfied with anything," laughs James from behind his desk inside the Kooyonga maintenance facility as the third round of the tournament is in full swing. "I think I may have been misquoted there. I'm definitely 'pretty happy' with how things have come along, but I'm not as pleased as they said I was in that article. I've learnt over the years not to get too carried away and not get too far ahead of yourself."

And don't get James started on the word 'mint' either. It is often used to describe the condition of a golf course in tournament mode (*Guilty as charged – Ed*) and for James it's one of those words that just grates. He doesn't know why, it just does. James duly tells his experienced

The Kooyonga Golf Club crew were lauded for the conditions presented for the 2018 ISPS Handa Women's Australian Open. Pictured is Kooyonga's 8th fairway



assistant Adam Fry of his disdain for the word after one of the crew relays to them that Richard Green, caddying for his wife Marianne Skarpnord, thinks 'the course is mint'. Fry, in good humour, later that afternoon tags his boss in on a Twitter post containing some beautiful photos he has taken of the course, with the two-word comment 'Looking mint!'

All the banter and paraphrasing aside, the conditions that James, Fry and the Kooyonga crew presented for the third consecutive Women's Australian Open in Adelaide were top notch. Superintendents are often their own harshest critics and no doubt James could rattle off a list of the things he wasn't happy with that week, but from where the vast majority of the players, officials, organisers, members and spectators were positioned, the stage he and his crew presented was something to be proud of.

Just as Royal Adelaide and The Grange did the previous two years (James incidentally was at the helm of The Grange for the 2016 Open), Kooyonga again demonstrated the fine calibre and conditioning that Adelaide's often underrated sandbelt courses are known for. Plaudits deservedly came from far and wide, with course architect and commentator Mike Clayton leading the chorus on Kooyonga's presentation.

"The one aspect of Adelaide's sandbelt sure to be consistent is the presentation of the playing surfaces," wrote Clayton. "With the ideal climate for growing grass but allowing for greens firm enough to present for the type of golf (Alister) MacKenzie encouraged, the courses are always immaculately presented for big championships. The playing surfaces this week are beyond criticism as are the 'mowing lines', a hugely important and underrated part of golf course presentation."



Kooyonga crew member Jack Hynes handwaters the 16th green, while course superintendent Richard James (top) keeps an eye on the final round action



◀ Volunteer Lachlan Pratt from The Grange shaves the Santa Ana fairway on the 9th



Kooyonga assistant superintendent Adam Fry gets airborne changing the hole on 18

RETURNING HOME

The 2018 Open was the first time in 46 years that Kooyonga had hosted a national Open, the last being the 1972 Qantas Men's Australian Open won by Peter Thomson in an 18-hole playoff against David Graham. Despite that Open hiatus, Kooyonga's tournament pedigree is well storied and for many years it was a regular host of the South Australian Open.

That tournament would eventually morph into the Jacob's Creek Open, an event which for its six-year duration between 2002 and 2007 was co-sanctioned by the PGA Tour of Australasia and the US Nationwide Tour. Kooyonga hosted four of those and prior to that it was venue for five consecutive Ford Open Championships (as the tournament was then called) up until 2000.

James has many fond memories of most of those tournaments as between 1998 and 2007 he was part of the Kooyonga crew. Arriving from Tatura, Victoria after finishing his apprenticeship and serving two years as superintendent, James was put on as a qualified greenkeeper by then Kooyonga superintendent Steven Newell, who himself had only arrived a few months earlier from Metropolitan Golf Club. Within a few years James was leading hand and between 2002 and 2007 was Newell's assistant. In addition to helping prepare Kooyonga for those tournaments, James also played a major role in Kooyonga's greens reconstruction works.

Three weeks prior to the 2007 Jacob's Creek Open, James was successful in gaining the superintendent gig at The Grange Golf Club, a role he would fill dutifully up until midway through last year. During that time, he guided preparations for the 2008 World Amateur Teams Championships, the 2008 and 2014 Australian Amateur Championships and the 2016 Women's Australian Open. He also oversaw the significant redevelopment of both the East and West courses.

Despite 10 very successful and rewarding years at The Grange, midway through 2017 an opportunity to return to the course which had played such a big role in his career development presented itself. Newell had just announced he was leaving Kooyonga after 19 years to take over at Melbourne's Victoria Golf Club. James was compelled to put his hat in the ring and was ultimately successful.

"There was a lot of consideration put into applying for the role," admits James who started at Kooyonga last August. "The Grange was a great place to work and we achieved a lot there, but this place (Kooyonga) has always been special to me with the history I have here. You aspire to work at the best clubs and Kooyonga was one of those ones that always appealed. The fact that it was hosting the Women's Open was a bonus.

"It has been a busy six months since starting here and it feels like I have been busier than I have ever been. It was a pretty easy transition across as I knew some of the guys already, like Adam (Fry) and (mechanic) Andy (Sekulitch). The crew have been excellent and the high standards and turf condition I inherited from Steven made things a lot easier."

GETTING REACQUAINTED

Despite that level of familiarity, there was still plenty of adjusting required on James' part. From the relatively new and similar aged A1 and A4 greens he had kept at The Grange, he was back to managing an older bentgrass mix and greens of varying maturity. Kooyonga's older greens, from James' previous stint at the club, are 1019/1020/Crenshaw, whereas the newer greens (the 1st reopened for play only last August) are a mix of SR1150, 007, Mackenzie and Tyee bentgrasses.

The course had also undergone a number of subtle and not so subtle design tweaks, first by international architect Martin Hawtree and more recently through local Neil Crafter. And then there was the prospect of preparing the surfaces for tournament play and Kooyonga's much-awaited return to the national spotlight.

The initial focus for James upon arrival was ensuring full turf coverage coming out of winter, promoting good turf density in the lead-up to Christmas and fine-tuning maintenance practices to his liking. One thing he didn't have to worry about was renovations, with the club having made the decision prior to his arrival not to core greens or scarify fairways.



Kooyonga's bentgrass greens were double cut at 2.8mm. Pictured is the 14th green complex

Greens renovations are normally conducted in early December, but with the tournament in mid-February it was deemed too risky. As a result, James went out monthly with 8mm solid tines and light frequent dustings, while the Santa Ana fairways were verticut monthly from September to December to remove some of the thatch that had built up.

Plenty of work also went into the couchgrass approaches and surrounds, which often get beaten up over winter and are slow to recover. In addition to sodding some areas and frequent applications to speed up recovery, James also lifted the height of cut on tees and surrounds from 5mm to 7mm.

"As good as the fairways ended up being for the tournament, it would have been nice to scarify the fairways and get rid of a bit more thatch," reflects James. "The verti-mowing was good. We went fairly conservatively at first before dropping them down a couple of times. We probably could have done that a little earlier, but we were mindful of not pushing things too much. The greens were solid-tined monthly and we put out balanced applications just to get enough growth to boost the root system and promote overall healthy and density."

Once Christmas had passed, James then had six weeks to dial in the surfaces. Mowing regimes ramped up with fairway stripes burnt in, while the last few foliar, preventative and PGR applications were applied to keep the surfaces (and pests, such as Argentine scarab and stem weevil) in check.



As is so often the case in SA, the first six weeks of the year were extremely dry and warm. The rainfall chart in James' office had just three entries for January totalling 6.5mm and nothing up until the final day of the Open (18 February) when 0.5mm barely touched the sides of the rain gauge. (As an aside, Adelaide recorded just 17mm of rain for the first three months of 2018). As such, plenty of water was going out which gave James the opportunity to see how the surfaces responded and coped with varying levels of moisture.

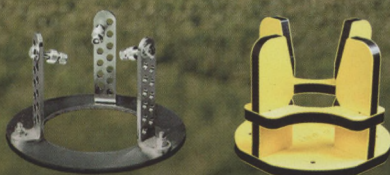
"We had a relatively short lead-in to the 2016 Open at The Grange but I'd had eight years' experience there, whereas here I was coming in

Kooyonga's Sam Rose cuts the 17th fairway, while Glenelg volunteer Sam Raschella (below) trims the 18th



DINT Golf Solutions

**DON'T ENJOY CUTTING HOLES?
YOU WILL NOW WITH THE
iPRO HOLECUTTER**



f Like us on
Facebook

facebook.com/dintgolfsolutions/

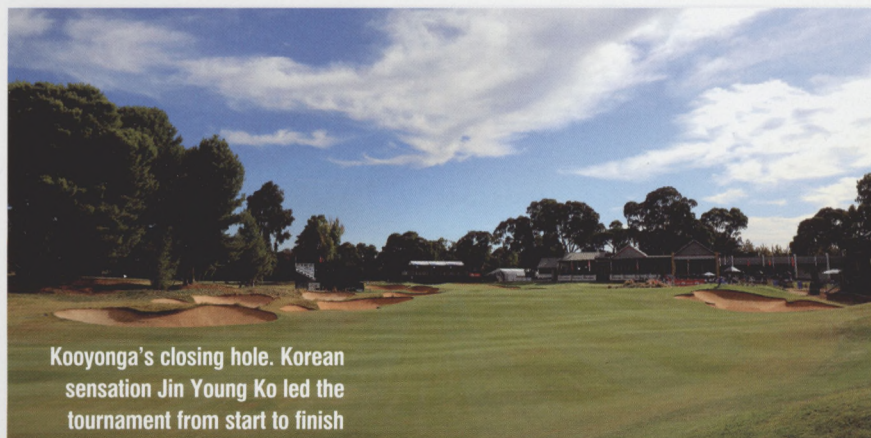
**TO SEE IT IN ACTION VISIT & LIKE OUR
FACEBOOK PAGE - "DINT GOLF SOLUTIONS"**



◀ Kooyonga's Stephen Hudson handwaters the tee on the par three 14th. Sweden's Jenny Haglund collected the Genesis sedan in the background after her third round ace



Volunteer Charlie Nielsen from The Grange cuts the 5th tee



Kooyonga's closing hole. Korean sensation Jin Young Ko led the tournament from start to finish

a bit blind I guess," says James. "Even though its similar in terms of climate, turf types and growing conditions, each course responds differently, so it was a matter of getting a handle on that."

"One of the challenges for me was dealing with the different ages of the greens and getting the turf density to where I wanted it to. On some greens it took longer than I expected, but that is where guys like Adam were fantastic. His knowledge and experience around the place and just his work ethic was very good. He could see things coming which enabled us to respond accordingly."

Having already hosted the Open two years' previous at The Grange, James did have the advantage of knowing Golf Australia's course set up requirements as well as knowing what to expect in regards to tournament infrastructure and the delightful curveballs that can throw.

True to form, this year was no different and you can imagine James' reaction after discovering that a giant television boom crane had been driven down the right hand primary rough on 16. The crane created huge ruts which had to be designated GUR and then to top it off it got stuck in a sandy fescue area between the 16th and 17th fairways. The solution? Drive a 30-tonne Franna crane straight across the 17th fairway to extricate it!

'PRETTY HAPPY'

Thankfully James' crew were far more careful with their preparations. Kooyonga's usual team of 16 was bolstered with a couple of casuals a few weeks out,

while for the week of the tournament 16 volunteers came in to assist. The majority of those came from local South Australian clubs such as Glenelg, The Grange, Royal Adelaide, Adelaide Shores, Thaxted Park and The Dunes, Port Hughes.

Coming from further afield, former Kooyonga foreman Jacob Burridge, now assistant superintendent at Peninsula-Kingswood in Melbourne, returned for the weekend, while Victoria Golf Club's Bentley Conn also made the journey across the border. Fry's wife Susana Oliveira, a greenkeeper herself, also volunteered (read their unique story on pages 18-23).

For tournament week, greens were double cut up and back every morning at 2.8mm with the 1st and 12th greens cut a fraction higher. The 1st had only opened back in August, while the 12th was, to use James' explanation 'a little crook'. It had been weak for a period leading up to the tournament and to minimise plugs a pin was left in the same spot for a couple of days. The additional traffic and a little more moisture stress than planned resulted in some discolouration. As James is quick to point out, that was one area of the course he wasn't 'satisfied' with.

Overall, however, James was most pleased with the consistency achieved across the greens and the manner in which his crew acquitted themselves during the week. It was also another important part of the learning process for James as he continued to adapt to his new home and think ahead to ways he can improve the future management of the surfaces.

"I think overall the quality of the surfaces, certainly the uniformity of the greens, was very good, especially considering their different ages," says James. "I was happy with their pace (around the mid to high 11s) and the way they played. Most of all I'm proud of the guys and what they achieved. I think they were pretty chuffed with how the course came up and the great things is we'll hopefully get to do it again in a few years' time."

And indeed they will. On the back of the superlative conditions presented over the past three years and the way the Adelaide public has embraced the tournament, Golf Australia (GA) confirmed it will remain in the South Australia capital until 2021.

As if to celebrate the announcement, Kooyonga witnessed one of the most complete performances in Women's Australian Open history. Twenty-two-year-old Korean sensation Jin Young Ko led the tournament from start to finish to win by three shots, another memorable performance that came on the back of Ha Na Jang's stunning closing nine holes at Royal Adelaide to win the previous year.

"We are incredibly excited to renew for another three years," says GA CEO Stephen Pitt. "The event has really found a home in Adelaide. We experienced record crowds and television ratings moving to Adelaide in 2016 at The Grange and that upward trend continued at Royal Adelaide as word spread around the LPGA Tour about the many beauties SA offers, both on and off the course." 🌿



OFFICIAL
GOLF COURSE
EQUIPMENT
SUPPLIER



Three perfect cuts:
grass, fuel and noise.

The 2500E E-Cut Hybrid from John Deere has these all in one.

With no hydraulic lines to the reels, the 2500E E-Cut Hybrid from John Deere virtually eliminates the risk of hydraulic leaks.

And since the 2500E is designed to mow at a lower throttle than any hybrid machine in the industry, it also reduces fuel bills and noise levels – without compromising on cut quality.

The alternator keeps the reels at a rock-steady 2,200 rpm and unlike a battery, its output never falters or fails.

That means you get the same superb quality of cut all day long.

To find out more contact your local John Deere Golf dealer today or visit JohnDeere.com.au/golf



JOHN DEERE
GOLF

Chosen by the world's best courses.

The Ohio Program has changed the lives of many young aspiring greenkeepers. As ATM editor Brett Robinson discovers, it had a far more profound impact on Adam Fry and Susana Oliveira.

Life exchange

After meeting as Ohio Program interns at Harbour Town in 2010, Adelaide's Adam Fry and Portugal's Susana Oliveira were married in February 2017

In 2009, Adam Fry was just like any typical up and coming greenkeeper. Nearing completion of his Certificate III in Sports Turf Management studies at Urrbrae TAFE in Adelaide, The Grange Golf Club apprentice was starting to think seriously about his career and where he wanted it to go.

Since the age of 13, Fry had always wanted to be a greenkeeper. Growing up in a large, cricket-mad family, Fry discovered his love for turf courtesy of his grandfather Barry, a prominent figure within Adelaide cricket circles. In addition to donning the whites for the mighty Grange Cricket Club (where Barry had won six premierships in his heyday), Fry could be found most summers preparing wickets alongside his grandfather who pretty much performed every role at the club, including that of curator.

Despite a passion for preparing green tops, Fry's formal introduction to turf management came through golf. It was during his apprenticeship at The Grange that he started hearing regularly of The Ohio Program (TOP) and the many doors it had opened up for past interns. With the lure of working PGA Tour events as an added cherry, Fry duly applied for the programme midway through 2009 and was accepted as one of 15 Australians in the following year's intake.

It was a big step for Fry and meant leaving behind his beloved family and the comforts of home. In order just to get his J-1 visa, which would allow

him to gain the hands-on training in the US, he had to take his first ever plane trip from Adelaide to Melbourne. Little did he know that with the very next flight, the long-haul to the US, it would signal the start of a life-changing journey from both a professional and personal perspective.

WORLDS COLLIDE

Some 17,000 kilometres across the other side of the world, Susana Oliveira had never heard of The Ohio Program. Hailing from Porto, Portugal, from the early 2000s she had quietly gone about establishing her turf management credentials, finishing a degree in agronomic engineering at Coimbra College of Agriculture before going on to complete her Masters.

During 2009 she worked as a senior greenkeeper at the Castro Marim Golfe and Country Club in the small southern Portuguese township of Castro Marim, under superintendent and mentor Luís Fialho. At that time, Fialho was president of the Portuguese Greenkeepers Association and together with an enthusiastic Oliveira organised a turf conference in the Algarve region. Keynote speaker happened to be US turfgrass academic Professor Karl Danneberger, who during the event espoused to Oliveira the benefits of TOP and what a wonderful opportunity it would present for a passionate young female greenkeeper to expand her horizons.

It was the first time Oliveira had heard about TOP and was suitably impressed. Despite having

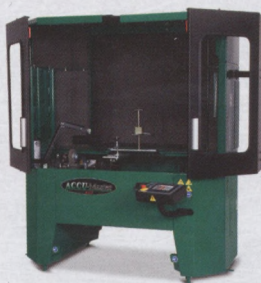
“It's wonderful to see the impact of The Ohio Program playing out like this for the betterment of the industry. Two young people brought together by the programme, making a life together, with such great passion for the profession.”

— MIKE O'KEEFE, OHIO STATE UNI

A NEW LINE-UP THAT IS A CUT ABOVE.



ACCU-Spin 622
“Touch-up/Touch-off”
Spin Grinding has never been more accurate or more productive.



ACCU-Master 653
The World's Most Popular
Reel Grinder, Automation with
dust & noise abatement.



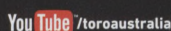
ACCU-Pro 672/673
The World's Most Popular
Bedknife Grinder,
Auto-alignment & auto
angle settings.



United in upping the game.
www.foleyunited.com

For more information, call 1800 356 372 or contact your Toro Golf Area Sales Manager.

toro.com.au





Fry and Oliveira lived together, worked together and socialised together during their 12 month internship at Harbour Town

Oliveira (pictured front row centre) was one of only two female interns in The Ohio Program intake of 2010

never travelled outside of her home country before, she decided to apply and within a matter of weeks was accepted as one of just two females in the 2010 intake of more than 50 interns. She finished her Masters degree in February 2010 and, like Fry, boarded her first ever long-haul flight bound for the US that March. The die had been cast.

SURPRISES

Mike O'Keeffe is The Ohio Program's larger-than-life director and his enthusiasm for golf and turf is matched only by the pride he takes in helping young greenkeepers from the world over develop their skills through what is one of the industry's most unique internship schemes.

In many ways O'Keeffe is like a father figure. He makes sure all the right documentation is in place before the interns set foot in the US, determines which courses they will be stationed at and pulls them into line if they (rarely) fall outside it. Ask anyone who has been a past student and they will attest O'Keeffe goes above and beyond to ensure that the transition to intern life is seamless and the experience overall is rewarding and career-defining.

Interns are placed at a variety of golf courses and as O'Keeffe proudly boasts they are among the best warm- and cool-season courses the US has to offer. Most courses will take two interns at a time, while the bigger facilities will take as many as O'Keeffe can give them.

When there are two or more interns heading to the same course, as part of the get-to-know-you process O'Keeffe actively encourages the interns to get in contact with each other prior to their arrival. In the case of Adam Fry and Susana Oliveira, O'Keeffe had placed them together at the Pete Dye-designed Harbour Town Golf Links, one of three courses that comprise the famed Sea Pines Resort on Hilton Head Island in South Carolina.

As requested, Fry and Oliveira duly exchanged introductory emails and looked forward to meeting each other in person once they reached the US. Suffice to say, Fry was a little surprised to discover that he would be interning with a female greenkeeper, but it was nothing compared to the bigger surprise that would greet them both upon arriving at Harbour Town.

After initially meeting up with all the other interns in Columbus, Ohio for orientation, Fry and Oliveira flew to Hilton Head Island together where they were met by HR staff from Sea Pines Resort. They were subsequently shown around the island and the three impressive courses that reside there (the complex also houses the Atlantic Dunes and Heron Point layouts), before being shown to their accommodation, their home for the next 12 months.

"It was quite funny," recalls Fry, who is now assistant superintendent at Adelaide's Kooyonga Golf Club. "It was a two-bedroom apartment and we were told we would be living together, along with another Irish intern! It was a bit of a shock for Susana who was thinking she would be staying with other female interns there or have a place of her own. Instead she's facing the prospect of living with an Irishman and an Australian, both of whom she couldn't understand! Needless to say it took some adjusting. She hadn't ventured outside of Portugal before and I think that first week she was questioning what she had got herself into."

SIDE BY SIDE

As anyone who has undertaken an Ohio internship will confirm, the hours are long and there is little respite. The very next day, after the shock of their living arrangements had sunk in, Fry and Oliveira found themselves working alongside each other out on the course. Over the course of the next 12 months they worked hard, very hard. They were involved in practically every aspect of maintenance operations at Harbour Town, working under superintendent Jonathan Wright who quickly saw the potential the two had and the work ethic they both possessed.

Not surprisingly, spending so much time together, Fry and Oliveira got to know each other pretty well and it quickly transpired they both shared similar interests. A passion for greenkeeping, golf and presenting golf courses at a high level was obviously integral to both, as was, most importantly, family. When they weren't working and living together, they found themselves volunteering together, socialising together and travelling together. In addition to preparing Harbour Town for its own PGA Tour event, they also volunteered at the McGladery Classic at Sea Island, Georgia.



Their easy-going and fun personalities quickly endeared them to the resident Harbour Town crew, many of who would go on to become lifelong friends. They would play golf with some of them on a weekly basis, were invited to family weddings and birthdays and heard some of the incredible tales of hardship that the local Hispanic crew members had had to endure to get to the US in order to make a life for themselves.

Together they went on day trips, overnight trips and weekend trips around South Carolina and across the border into Georgia and Florida. They even pooled their money and bought an old Chevy Cavalier. Problem was it had an annoying tendency of breaking down at the most inopportune times, as they found out one day while on Interstate 95 en route to Jacksonville to take in the 2010 Players Championship at TPC Sawgrass.

All these wonderful experiences, both on and off the course, were starting to mount up and mean something, so it was no surprise that midway through their time at Harbour Town, Fry and Oliveira decided to, well, hook up. As Fry admits it was just a natural progression; they had been together since day one, had shared so many life experiences in such a short space of time and had similar passions and beliefs. Fate was ordaining they be 'together'.

The hardest thing was not telling anyone. To their credit, the couple kept their blossoming relationship quiet as they were at pains to not let it affect their

work. After all, they were there to learn new practices and techniques, work with different grass types and immerse themselves in the workings of the US industry for the betterment of their careers. It wasn't a matchmaking service. The fact that they had each found a soulmate was just icing on the cake.

PARTING WAYS

Keeping it quiet, however, would be nowhere near as tough as the conundrum that Fry and Oliveira would soon be confronted with. Being from opposite sides of the world and with the end of their internship looming, the question suddenly became what did the future hold for their relationship.

Both admit it was hard to leave Harbour Town when their internship ended in March 2011. It was a 12-month period that both look back on as containing some of the most special and enriching moments of their lives. Many of the people there, including Wright, had become like family to them. Indeed, many of the crew were in tears as they bid their overseas friends farewell.

More poignant, however, was the moment a week later in New York, where Fry and Oliveira had both travelled to meet their respective families after leaving Harbour Town, when it came time for them to part. Having spent literally the past 365 days living in each other's pocket, to suddenly sever physical ties was not only heartbreaking but disconcerting as well.



Oliveira rose to be assistant superintendent at Royal Obidos Spa and Golf Resort in Portugal after completing her Ohio internship

CCI SAFETY FENCING

WORLD LEADERS IN HIGH SAFETY SCREEN DESIGN & INSTALLATION

- Constructed more high safety screens in Australia than any other company.
- Designed and constructed the highest safety screens in Australia – 36m – with current designs up to 52m high!
- Fully engineered & certified designs setting new world standards
- Using only the world's highest grade and fully wind tunnel tested netting.
- Latest independent "Launch Trajectory" analytical reports available.
- 30 - year's experience.



**FREE
CONSULTATION
CALL NOW!**

CCI COUNTRY CLUB INTERNATIONAL

info@countryclub.com.au | 1300 138 804
C O U N T R Y C L U B . C O M . A U



Oliveira volunteered at the 2018 ISPS Handa Women's Australian open alongside Fry, the first time the couple had worked together since their days on The Ohio Program

Oliveira headed back to Portugal, while Fry continued to travel around the US before eventually resettling in Adelaide. Within weeks of touching down he had secured the foreman's role at The Grange, which was about to embark on the redevelopment of its East course. Having played a significant role in that, in early 2012 he was appointed assistant superintendent at Kooyonga Golf Club. Similarly, Oliveira wasted little time upon her return, scoring the plum job of assistant superintendent role at the Seve Ballesteros-designed Royal Obidos Spa and Golf Resort, one of Portugal's top courses.

Even though they were physically separated, not a day would pass where they didn't talk to each other either on the phone, via text or Skype. Many of the discussions would turn serious as they questioned each other as to the next steps they needed to take to be reunited. Who was going to leave their family? Which country had the better lifestyle and job prospects? What were the visa requirements? And ultimately, what was going to be the best decision for them to build a future together?

"We found it very difficult to be apart early on," admits Fry. "After living with someone 24/7 for the best part of a year and doing everything together, it was hard. It was even more difficult working out what we were going to do. The fact that we had good jobs made the decision even more difficult. We really didn't know what the future would hold."

REUNITED

However, when there's a will there's a way and after plenty of soul-searching, in September 2012 Oliveira made her first trip to Australia. Here for two weeks on what was essentially a fact-finding mission, it was enough to convince her she could live Down Under. With that decided, the long (and expensive) process of getting the paperwork in order then began.

In late August 2013, Oliveira arrived in Australia on a student visa and went on to complete studies in Long Term Academic English in March 2014. During that time she applied for a partner visa and shortly after that was granted in September 2014 she also attained permanent residency status.

Paperwork aside, by no means was it an easy introduction for Oliveira. As Fry confesses she found it hard to initially adjust to the lifestyle, the food and Adelaide's fickle weather. Most of all, however, she missed her small, close-knit family. Thankfully, Fry's large and equally tight-knit family took Oliveira under their wing and were a huge comfort.

Finding employment also had its ups and downs, especially getting back into the turf industry despite her credentials. From October 2013 to 2016 she held a number of part-time jobs outside of turf, before eventually securing a role with Programmed Maintenance Services. She now assists with the maintenance of the University of Adelaide's sports grounds including preparing cricket wickets.

Oliveira still holds on to her dream of one day returning to work on a golf course and she got a taste of that when Kooyonga recently hosted the 2018 ISPS Handa Women's Australian Open. Oliveira was one of 16 volunteers for the week and worked alongside Fry during the tournament. She came in the weekend before the tournament to help roll greens and for the four days of competition took stimpmeter and TruFirm readings on greens and painted holes after Fry had changed them.

"Susana absolutely loved being out on the golf course again and it was great seeing her smiling and back doing what she loves best," says Fry. "It was a very special moment to work alongside each other again, the first time we had done so since our time at Harbour Town. It was fantastic and we both said to each other afterwards how glad we were that she volunteered and that we would have regretted it if she hadn't. It was actually a bit weird coming in the Monday after the tournament and not seeing Susana there!"

Unfortunately, the joy of having Oliveira working by his side for the tournament was tempered somewhat by the sad events that transpired on the home front for Fry that same weekend. Tragically at 9.30pm on Friday, Fry was informed that his 84-year-old grandfather Barry, the man who had nurtured his love for greenkeeping, had suffered a massive heart attack earlier that evening.

After finishing their third round preparations on Saturday, Fry and Oliveira spent most of that afternoon and evening at the hospital alongside the family. Leaving the hospital at 9pm, just a few hours later they received the inevitable phone call that Barry had passed away. Coming in the following day to go about their final round preparations was tough to say the least, but it was somewhat fitting that both were working side by side and helping each other get through what was a hugely emotional time.

POSTER COUPLE

On 6 June 2015, some five-and-a-bit years after they had first met at Harbour Town, Fry plucked up the courage to ask Oliveira to marry him. Fry had organised a surprise weekend away in Sydney for her birthday and popped the question to an

unsuspecting Oliveira whilst they were having a picnic in the Royal Botanic Garden. They duly tied the knot in a garden wedding ceremony in Adelaide in February 2017, before jetting to Porto, Portugal that May to do it all over again in front of Oliveira's family, this time in a church.

Following that, they spent their honeymoon travelling through Portugal before heading to the US and Canada. They made a special pilgrimage back to Harbour Town, catching up with friends and former work colleagues and reminiscing about where their improbable journey began more than seven years previous.

"It was incredible to go back to Harbour Town," reflects Fry. "We never thought we would be back there so quickly given it is so far away. It was so special seeing all our old friends and staff. We have kept in touch with them all this time and they really are special people."

"It was amazing to think back on our time there. I went over there thinking that I'd do my time and come back home with new skills that would give me a bit of an edge over others to help further my career. But it ended up being so much more than that. It was a real life experience."

"It's pretty incredible to think how it all worked out and never in a million years did I think I would end up meeting my future partner. The whole thing was a life-changing experience and both Susana and I would certainly recommend it to anyone!"

Such a comment is music to the ears of O'Keeffe who for 30 years now has seen many former interns go on to do great things with their careers. However, it's stories like Fry and Oliveira's that give him the most satisfaction and make the job so rewarding. In many ways, they are a poster couple for The Ohio Program, two people who embody the spirit of what the programme is all about.

"Adam and Susana are two very special people and are a great example of what Ohio State University's intern programme does for people," says O'Keeffe. "It's a true exchange of ideas and cultures. The best learning happens on the golf course, but off the course the trainees find a common bond in turf and in life."

"When Adam and Susana were trainees they always kept things very professional on the job. You would never know they were a couple. They were liked by everyone at the resort, from the head of human resources and the superintendent, to the local crew who invited them to 'Lowcountry' cook-outs and family weddings loaded with that unique South Carolina culture."

"It's great to see the impact of the programme playing out like this for the betterment of the industry. Two young people brought together by The Ohio Program, making a life together with such great passion for the profession; it gives true meaning to the term 'exchange programme'. As I often say, we don't grow grass, we grow people."



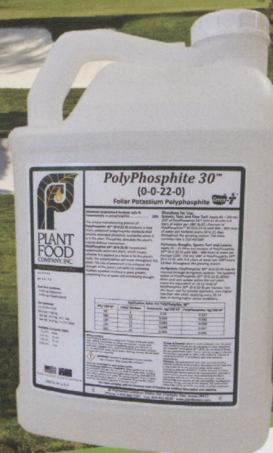
Fry and Oliveira returned to Harbour Town on their honeymoon in May 2017, catching up with former work colleagues who have become lifelong friends

PolyPhosphite 30®

is a One-of-a-kind Systemic Potassium Polyphosphite Fertilizer that utilizes a patented linear polymer chain molecule that provides extended periods of phosphite availability within the plant for increased health and vigor.

Reactor Patent # 4724132

Molecule Patent # 8088191



Contact Us Today

Phone: 1800 887 343

E-mail: Info@kbadams.com.au

Units 24/25, 19 Cornhill Street, Ferntree Gully, 3146



Swan Hill serves it up



Country Week is one of the biggest gatherings on the Tennis Victoria calendar, with Swan Hill Lawn Tennis & Croquet Club hosting more than 1200 players in February across a total of 93 Santa Ana couchgrass courts

Country Week has been an institution for more than 30 years, with Swan Hill hosting it 16 times



Every February, Tennis Victoria hosts one of the biggest events on the Australian tennis calendar – Country Week. Each year between 1200 and 1500 players of differing skill levels from across the state converge on the host towns for a week of action on and off the grass courts. The event has travelled around regional Victoria for more than 30 years and from 12-16 February 2018, Swan Hill Lawn Tennis & Croquet Club (SHLT&CC) hosted the event for the 16th time.

The Swan Hill Lawn Tennis Club (as it was then called) was originally formed in 1910 and from humble beginnings of just a single asphalt court has grown to boast 51 permanent Santa Ana couchgrass courts and four hard courts, making it one of the largest lawn tennis facilities in the world.

In order to host Country Week, the club, with the assistance of Swan Hill Rural City Council, converts the adjacent soccer club fields into 42 temporary grass courts. All up, the 93 courts this year entertained 89 men's and 119 women's teams.

I have been the club's curator for a total of 12 years over two separate stints, the most recent starting in September 2013. For those not familiar with Swan Hill, it is located on the Murray River about four hours north west of Melbourne. I grew up in the small township of Lake Boga which is about 15 minutes south of Swan Hill. My family had a grass court in the backyard and I was attracted to the lush green turf in our semi-arid climate and the game of tennis from an early age.

My entry into greenkeeping certainly wasn't conventional. In the early 1990s I completed a Bachelor of Computing at Melbourne's Monash University and subsequently worked in the IT industry. City life, however, wasn't for me and I headed back home and was fortunate enough to get a part-time job during the summer months at SHLT&CC where I learnt the basics of turf maintenance. From that, I was offered the sole full-time role which I duly took up and did so for about eight years until 2005.

In February, the Swan Hill Lawn Tennis & Croquet Club hosted more than 1200 players across 93 grass courts for Tennis Victoria's Country Week. Curator Dan Gardner provides an insight into the club and the huge amount of work that goes into preparing the courts for one of the country's biggest tennis tournaments.



With the IT industry decentralising from the big cities, I dipped my toe back into IT in a software development role while 'tele-commuting' from home. I enjoyed my time and realised my goals in IT, so when the position at the tennis club came around again in the spring of 2013 I put my hat in the ring. I was in a position to make a difference and have a lifestyle that suited my growing family. I also felt like I was able to give something back to the local community while returning to a job that I had a real passion for.

It hasn't been the standard career path, but it has been good to experience both office and outdoors work. I love the fact that I am now able to manage my time and tasks, work within a great local community and in turf and the job satisfaction that this brings.

THIRTY-THREE YEARS IN THE MAKING

The development of Swan Hill's 51 permanent grass courts has been a complex one and along

the way there have been numerous changes in both turf types and the way the surfaces have been managed. The current court complex was constructed back in 1983 after the club moved from its previous site (which comprised 18 grass courts) next to a caravan park in a prime spot on the banks of the Murray River.

At the time the bold decision was made to plant the new courts with Tifdwarf couchgrass. The land was basically levelled and the Tifdwarf planted on what was indifferent black clay soil.

By the late 1980s, however, problems started arising in the form of thatch and disease, so the club decided to convert one bay of courts (a bay can comprise anywhere from 6-9 courts) to Wintergreen couchgrass in an attempt to remedy these issues. Despite providing excellent playing conditions for the next few years, the Wintergreen bay started developing similar issues and in 1991 another bay was replanted, this time with a third, unknown couchgrass variety.

Dan Gardner has been Swan Hill curator for a total of 12 years over two separate stints, the most recent starting in September 2013





Swan Hill boasts 51 permanent Santa Ana couchgrass tennis courts. They were maintained at 6mm for Country Week



With 93 tennis courts to mark and re-mark, Gardner clocked up nearly 100 kilometres behind the line maker for Country Week

During Country Week mowing is limited to areas that need cleaning up. The club purchased an additional Jacobsen fairway mower to assist with preparations of both the permanent and temporary courts



In the mid-1990s the club invested in a pedestrian scarifier, but with 2.5 hectares of courts to tend to and only two summer staff, it was left up to volunteer members to do the scarifying when they could. The club also purchased a pedestrian corer, but without any regular renovation practices thatch levels continued to increase and with it the prevalence of disease. Baselines were also becoming an issue due to the slow growth of the Tifdwarf, so the club purchased its own sodcutter to assist in their replacement.

The surfaces continued like this until around 1997 when the club made a conscious effort to focus on thatch reduction. In hindsight, the long laborious hours throughout the growing season probably upset play more than enhanced it. The equipment was inadequate for the depth and area of thatch and with the reduction from a full-time and part-time employee to just one full-timer, it was decided to move toward tractor-driven implements.

The next season a 1.2 metre width scarifier was put across the courts, with the worst areas attacked in 11 directions, along with 5mm tines at a depth of 50mm. Despite this aggressive approach, issues still remained. The thatch was hard to eliminate at that depth, disease was still an issue, baselines continued to be problematic and the indifferent soils caused variability in colour and growth rates. The different couchgrass varieties also required different mowing heights and played differently.

So effectively, by the late 1990s the club had a patchwork quilt with little in the way of a plan for

the future management of the surfaces. Greens staff were in a state of being continually reactive to problems rather than proactive and improving surfaces. Members were sometimes frustrated with the surfaces, which in turn was hard on staff morale. A lot of lessons had been learned to this point and the club also had developed a cache of viable equipment.

STARTING FROM SCRATCH

It was at this point that the club decided to look long-term. Employing a turf consultant to look at various options and to confirm agronomic decisions, it was decided to completely rebuild a bay in 2000, replacing the profile and the turf. Prior to that season, four new courts and a sod nursery would be constructed to the west of the complex. These would act as a trial to iron out any construction issues and also had the added benefit of providing extra courts whilst the others were out of play and for when the club hosted Country Week. The nursery provided a valuable source for the sprigs for the new bays.

This time around, Santa Ana couchgrass was chosen as the replacement turf variety. It was recommended by the turf consultant and after seeing it in play on the four new courts and from what we had witnessed at other clubs around the state, the club gave it the green light.

The first bay was constructed in 2000 with a 250mm sandy loam base and drainage. Although again this was not a long-term plan, the results were good, the new grass was able to handle disease better and we had the equipment to maintain thatch levels. Two more bays were rebuilt every second year with 120mm topsoil brought in. By 2004 three bays had been rebuilt and in 2005 we also did the same on the 2.5ha hectare soccer field next door to help improve the surface (see more on this below). In 2013 and 2015 the remaining two bays were done to bring all surfaces into line with the same grass and same base, with minimal thatch and minimal disease.

It took 33 years to get to this point, but we did it and the lessons learned throughout this complex process have been invaluable. Among those lessons were:

- The surface rebuilds for us were only the beginning to the solution. Thatch will still build up and pests and disease will still be an issue. But what it meant was that we had a clean start, good courts and meant we could have a far more proactive maintenance programme.
- Having the right equipment. I left the tennis club for eight years, came back and the thatch levels were at about 30mm; the age old problem was reoccurring. It has taken two years to wrestle those levels back. This would not have been possible without access to the right equipment at the right times to get large amounts of work done quickly.

- Undertaking the correct maintenance. The previous issues would not have occurred if the correct maintenance had been done at the right times. The programme needs to fit in with the season schedule, but there will be times when it isn't ideal for playing conditions. It's important to think of the bigger picture. I like to think our maintenance levels are closer to that of a golf green than of a fairway. A lot of things have to be in place for this to be possible.

FROM SOCCER TO TENNIS

As mentioned, in order to accommodate the huge numbers that descend on Swan Hill for Country Week, the adjacent council-maintained soccer fields are transformed into a bank of 42 courts for the week.

As the club started its transition to Santa Ana courts, the soccer field was also converted to Santa Ana sourced and planted by 200 volunteers from the tennis club in 2005. In the years since it has had its share of management issues and was always difficult to attain the same levels of consistency and playability with the permanent courts when preparing for Country Week.

By 2015 the surface was severely overrun by kikuyu and weeds which comprised more than 60 per cent of the ground, which wasn't ideal when trying to create a uniform playing surface for lawn tennis, or soccer for that matter.



Some 18 months ago, long-serving Murray Downs Golf & Country Club course superintendent Andrew Abbott took over as Swan Hill Rural City Council's parks and gardens co-ordinator and was charged with the challenging task of improving the surface. Over the past 15 months, several applications of Tribute and Monument have been applied strategically to remove the kikuyu and reduce weed percentages.

Once large patches were removed, promotion of the Santa Ana into the bare areas, along with glyphosate dabbing on small kikuyu plants, ensued. Furthermore, irrigation uniformity was fine-tuned which made a big difference and helped to promote the desired couchgrass.

An army of club volunteers assist in erecting fences, net posts and shade marquees on the temporary courts

Exclusive to david golf



COMPRESSION SPRAYER

2 Gallon Compression Sprayer

- 7.5 Litre capacity compression sprayer.
- Pressure relief valve for ultimate safety.
- Includes nylon shoulder strap.

Code: FG-190462



BACKPACK SPRAYER

No-Leak Backpack Sprayer

- 15 Litre no-leak backpack sprayer.
- Internal piston pump design.
- Deluxe shoulder harness with storage area for nozzles and cushion back and adjustable lumbar support.

Code: FG-190461

INDUSTRIAL STRENGTH



SPECIALTY SPRAYER

Handheld Compression Mister

- 1.5 Litre capacity compression mister.
- Weighted dip tube allows for continuous fluid flow when bottle is used at various angles.

Code: FG-190439

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

1300 790 890

| www.davidgolf.com.au

It has been amazing to see the transformation of the ground in such a short period of time, with only a minute percentage of kikuyu now remaining. There will be a continual effort required to keep it in check, but the results achieved to date are very encouraging and have made preparations on the temporary courts much more seamless.

THE HORDES DESCEND

SHLT&CC hosts a number of major events throughout each year – we have a semi-professional Australian Money Tournament event along with a four-day junior tournament after Easter – but Country Week is without doubt the club's biggest in terms of the number of participants.

SLIP, SLOP, DOH!

Tennis Victoria's Country Week is certainly a unique event and while there is a serious competitive element to it, it is more about participating and having a bit of fun. You only have to look at some of the interesting team names that lined up for this year's event.

In the men's grades you had the likes of the Drouin Donkeys taking on the Beaconsfield Ticklers, while the St Arnaud Hobos, Traralgon Sad Sacks and Leongatha Merkins all battled it out lower down. Not to be outdone, in the women's draw there were the likes of the Goulburn Murray Kamikaze Kittens, Kyabram Cougars and the mighty Mt Prospect Beavers who took to the beautifully prepared Santa Ana couchgrass courts.

However, it was one member from host club Swan Hill who had many in stitches on the opening day after a somewhat unfortunate accident while in the line of duty. Swan Hill curator Dan Gardner takes up the story...

"We were marking out the many temporary courts on the soccer oval and as always we look at ways of doing things more effectively. We had used paint brushes and containers of paint to mark the corners of courts, but had to clean them each day and it wasted a bit of paint in the process. We had also used spray cans for the same thing. One method that we found worked quite well was to put the line marking paint in an old sunscreen pump container. It was clean, easy to use and didn't go off as the paint wasn't exposed.

"We use a golf cart with a tray on the back for general duties around the club. For Country Week the cart gets commandeered to transport and sell drinks to the many players out on the

courts. The sunscreen bottle was put into the cart's front compartment while cleaning out the tray in preparation for tournament week.

"One of our members, Christian Devlin (pictured), was on drinks duty during the opening day. It was a sunny day (around 30°C) and realising the sunburn potential he saw the container. Thinking it was my sunscreen he started to apply it – liberally! 'Geez, it's going on a bit thick' was his comment as the realisation started to sink in that it wasn't sunscreen!"

Tennis Victoria had a slightly different version of events of the Swan Hill sunscreen saga and tweeted: "2018 Tennis Victoria Country Week - Pic of the Day (Day 1). Swan Hill curator, Daniel Gardner, was getting frustrated at Christian Devlin (pictured) helping himself to sunscreen. To combat this, Gardner replaced the sunscreen with line marker. Slip, slop, whack!" You be the judge...



Preparations for such an event are year-round in order to attain the desired firmness, consistency and coverage, along with keeping the usual pests in check. We carry out our main maintenance practices after Easter each year and heading into the winter months. While not exactly textbook, it's what works for us in our environment and fits in with the tennis calendar.

This involves heavy scarifying, grooming, coring, solid-tining and topdressing in an effort to firm the surfaces and reduce thatch levels, in addition to levelling, sodding and brushing at the required times. As we get closer to the desired levels, end of season scarifying depths are reduced and more of a shaving technique is carried out by lightly scarifying in several directions and scalping with the mowers. Minimal nitrogen levels are used with baseline wear getting extra attention when required.

Fine-tuning closer to the event is based around court spacing (we usually run with 42 courts but compress spacings to get the maximum of 51 needed for Country Week), colour (applications of urea, iron, magnesium and manganese), turf density (applications of trinexapac-ethyl) and coverage.

Preparations several weeks out are crucial as the surface areas are doubled with the temporary courts coming on line, bring the total area to 6ha. With around 400 members, the club has a dedicated group of volunteers who help out with major events like this, undertaking all manner of work around the clubhouse and surrounds to give the place a facelift. An army of club volunteers helped to erect fences and net posts, along with shade marquees on the temporary courts.

Closer to the event, mowing heights were lowered on the soccer oval to around 8mm and 42 courts marked out, lined and rolled several times. The permanent courts were cut slightly lower (6mm). With the temporaries we had to push the growth all the way to the tournament to gain some extra coverage in some areas, so the height of cut was kept a little higher. To assist this year, the club purchased an additional Jacobsen fairway unit to enhance the surface of the temporary courts and reduce the workload on the club's other unit.

Mowing and line-marking take up a large chunk of time in the lead-up and this year according to my pedometer I clocked nearly 100 kilometres behind the line marker; needless to say it is a relief once the event gets underway. My son Will also assisted line-marking this year, while Tony Evans helped out with some final mowing.

Water management is also a primary focus in the lead-up to the Country Week. We have a dam on site that is filled from the Murray River and we timeshare the pump with the surrounding council ovals. After some decent rains in November (one overnight dump of 68mm flooded some of the courts), it was a very dry and warm start to 2018. The Swan Hill BOM station recorded just 0.1mm of rain for the month of January.

On the permanent courts we use wetting agents in the weaker areas to get more consistent coverage. With the lower thatch levels we have now, I feel we can water when required without the worry of upsetting surface firmness too much.

The weeks preceding Country Week were high 30s, if not higher, so nightly watering was the norm until the Saturday night before. We then backed the water off to provide as firm a surface as we could. Some light watering was carried out nightly during the tournament, but this was minimal as temperatures dropped back to around 30°C.

The temporary courts were a bit different. Watering was required to promote growth early, but excessive growth hindered mowing. It was stopped during the tournament. With both the permanent and temporary courts an effort was made to keep the profile from drying completely prior to the event.

During the event all courts are in action most of the day with all matches being doubles. Mowing is limited to areas that need cleaning up, with leaf debris and scuffed baselines targeted. Primo and the continual foot traffic the courts experience during the week are our friends in this regard. Hopefully all the lines hold, with re-marking on the base and service lines occurring once or twice during the tournament where required.

This year's event was another great success for the club and the feedback from the players and Tennis Victoria confirmed that the surfaces



presented were right up there. Bringing everything together to host something like this takes a great deal of effort from a lot of people and everyone at SHLT&CC should feel justifiably proud of the way the venue presented.

Editor's Note: Tennis Victoria Country Week heads to Shepparton and Mooroopna Lawn Tennis Clubs from 11-15 February, 2019. In the May-June edition of ATM (Volume 20.3), Dan Gardner will provide his thoughts on preparing and managing grass tennis courts. Dan is happy to be contacted via email dgardner@swanhilltennis.com.au or you can follow him on Twitter @GreatManDan. 🏏

In order to accommodate the huge numbers that descend on Swan Hill for Country Week, the council-maintained soccer fields next door to the club are transformed into a bank of 42 courts





Reduce your operating costs per annum and enjoy consistent, attractive bunkers that last.






Exclusively Distributed by:

TURFCARE AUSTRALIA

Unit 8/24 Clyde Street Rydalmere NSW Australia 2116

Phone: 61 02 9684 6611 Fax: 61 02 9684 6633

Email: sales@turfcareaus.com.au Web: turfcareaustralia.com.au

Contact: Shane Summerhayes 0425 280 300 Email: shane@turfcareaus.com.au



Bonville

blows them away

WORDS AND PHOTOS: BRETT ROBINSON

Bonville Golf Resort hosted the first of five Australian Ladies Classic tournaments in February. Pictured is the stunning vista looking back up the 18th from behind the green

You've got to respect the nous of an experienced golf course superintendent.

It's a hot and humid late February morning at Bonville Golf Resort just outside of Coffs Harbour, NSW and the final round of the inaugural 2018 Australian Ladies Classic has just teed off. Down at the maintenance compound the Bonville crew are laughing, relaxing and reflecting on what has been a long, yet satisfying week. Superintendent Chris Neal

is also in a jovial mood, but you can tell something is on his mind and for good reason.

A few hours earlier, while he and the crew were out preparing the course for the final time, Bonville awoke to one of the most spectacular sunrises you'll ever witness, the sky turning a spectacular hue of pink and burnt orange.

As Neal has come to know during his 19 years at Bonville, such beauty is usually a portent of things to



Bonville's abundant fauna was well on display during the tournament



The stunning Bonville Golf Resort near Coffs Harbour hosted the inaugural Australian Ladies Classic in late February. For course superintendent Chris Neal and his dedicated crew it was the perfect opportunity to showcase one of Australian golf's most spectacular layouts at its very best. And did they deliver...



Bonville crew member Jack O'Neill cuts the 14th tee

come and as some of the crew and volunteers start filing out of the compound he comments "I reckon about two o'clock we'll get something." Looking at the bright blue sky and burning sun above, you'd think he was mad.

Fast-forward four hours. As Frenchwoman and tournament leader Celine Boutier butchers her drive 150m down the par five 10th, ominous clouds are closing in rapidly over the nearby ranges. By the time she scrambles a par-saving putt 10 minutes later at 1.16pm, the clouds are overhead and the once searing sun has all but disappeared.

Twenty minutes later, just as Boutier is making her way up the 12th, the first few large drops of rain start to fall. At 1.58pm, almost precisely on cue, the 'something' that Neal had earlier predicted arrives. A few minutes past 2pm the siren sounds to suspend play and the course becomes barely discernible as torrential rain lashes down at a rate that only the locals can truly appreciate.

Over the next 45 minutes Bonville records an impressive 52mm and it isn't until 5.45pm, after Neal has had to call the crew back in to repair bunkers and remove casual water from the playing surfaces, that play finally resumes and Boutier clings on for victory. That little spritz brings the tournament week rainfall tally to 116mm; such is life at Bonville Golf Resort.



Caine James (above) and Michael Ryan (below) roll the 11th and 10th greens respectively ahead of the final round. Later that day 52mm of rain in 45 minutes saw play suspended for three hours



A NATURAL BEAUTY

The unique and sometimes extreme weather of the Coffs Harbour region is just one of the many idiosyncrasies Neal has come to appreciate during his time at Bonville, in addition to the course's much-admired and envied natural setting.

Originally from Newcastle, Neal served his apprenticeship at Belmont Golf Club where he ended up spending the first 11 years of his career. A handy cricketer, during his stint at Belmont he jetted back and forth to the UK playing four seasons of cricket semi-professionally in Manchester. He worked various jobs on road construction and landscaping crews while there, anything that would help to pay for a few after-match refreshments.

His eventual journey to Bonville, however, wasn't of his own doing. Wife Cindy was promoted to a managerial role within the RTA and so they moved to Coffs Harbour in 1999. Neal started knocking on a few maintenance sheds, including Bonville which had been in operation since 1992. Duly put on as a greenkeeper by then superintendent David Scutts, Neal would eventually rise to be his assistant for four years before taking over the reins in 2007.

"I started here May 1999 and it stopped raining that September," laughs Neal as he recalls his initial days at Bonville. "Those first four months were the wettest in my life! I've been here 19 years now and you still don't get sick of the place. It's pretty unique and there aren't many places like it in the world."

"What most people don't know is that the property the golf course is on used to be a dairy farm. It was planted out with plantation timber back in the 1950s which was going to be pulped and used to make paper bags. Normally when you plant out plantation timber you do so at a seed rate of 400 per hectare; this place was done at 1200 per hectare. They wanted to try and minimise sideways growth to reduce the amount of work at the mill. However, by the time the trees had matured, the plastic bag had been invented, so there was no market and the property got sold off. That's why we have all these tall, skinny flooded gums, which provide such wonderful definition of the golf course."

While the treescape is one of Bonville's greatest assets, it also gives Neal his biggest management headache, with shade and microclimate issues ever present factors. Add to that the region's hot, humid and at times extremely wet subtropical climate (between 2008 and 2010 Coffs Harbour recorded consecutive annual rainfall tallies of 2500mm), not to mention the course's undulating terrain, and Neal and his crew of 12 have their work cut out.

TOURNAMENT TIME

Throughout its life Bonville has been a resort course, relying predominantly on pay-for-play golfers, golfing groups and resort guests. Bonville has just 200 paid members of whom half only play, so

CONTINUED ON PAGE 34



Tribute

It's not complete without u.



Tribute®

You strive for the best turf. Tribute is your ultimate partner.

- ✓ Tribute delivers unparalleled effectiveness against tough grass weed problems in couch:
 - Crowsfoot and Goose grass
 - Winter grass and Ryegrass
 - Kikuyu and Paspalum
- ✓ Tribute has excellent turf safety on common and hybrid couch, and zoysia.
- ✓ Tribute has proven results and unsurpassed success. No other product can offer more.
- ✓ Tribute is the smart tool that offers the flexibility to tank mix with Destiny® and Spearhead®, where tailored solutions for broad spectrum weed control are required.

ALWAYS USE ACCORDING TO PRODUCT LABEL.

Bayer CropScience Pty. Ltd., Level 1, 8 Redfern Road, Hawthorn East, Vic. 3123 Technical Enquiries: 1800 804 479 environmentalscience.bayer.com.au bayeramplifyturf.com.au
Tribute® is a Registered Trademark of Bayer

© 2016



Top: Bonville has long been recognised as one of Australia's most spectacular layouts

Above: Bonville irrigation tech Adam Freebody cuts the 12th green

Due to the expansive nature of the Bonville layout, organisers made the call on the tournament's eve that players were allowed to use carts



CONTINUED FROM PAGE 32

therefore the resort goes out of its way to make sure those visiting golfers (who fork out \$145 per round during peak times) are presented with first class conditions. It's all about making their experience at Bonville memorable and getting the return visit.

Up until this year, Bonville had never hosted a major televised tournament despite boasting perhaps the best 'made-for-television' setting of any Australian golf course. Its biggest event, now in its 22nd year, has been the annual Bonville Ladies Amateur Classic, a 36-hole, two-day event in late February/early March which attracts 280 female golfers from across the country.

On 12 December 2017 all that changed when the ALPG announced that Bonville would be host venue for the newly created Ladies European Tour (LET) sanctioned Australian Ladies Classic for the next five years. It was a huge deal for the resort and with the tournament beamed to more than 80 countries around the globe it was the perfect platform to showcase Bonville. As a superintendent, for Neal it was also a wonderful opportunity to realise a dream of preparing his course for a televised event and enabling the crew to highlight their skills.

There was one small issue, however. The tournament, to be held from 22-25 February, was just nine weeks away and for six of those Neal was going to be on a family holiday that had been planned long before the tournament had been

announced. Add to that the fact that renovations had to be brought forward and having to present tournament surfaces at one of the most challenging times of the year, there was certainly a lot to consider, plan for and enact.

"We had our work cut out," reflects Neal. "Well, I should say that my assistant Aaron (Banks) and the other senior guys – Ricky Welch, Dane Robertson and Adam Freebody – had their work cut out. I was on holidays from 2 December to 15 January and the job they did while I was away was fantastic.

"Our greens renovations were originally scheduled for the day I got back from holiday, but with the tournament announced that became too close, so we brought it forward to before Christmas. That created its own challenges as our peak golf season runs from Boxing Day to 10 January, so we didn't want to disrupt the surfaces too much, especially when golfers are paying top rate.

"So we basically went with just a lick and a polish. We usually go pretty hard on the 328 with multiple scarifyings and deep hollow coring, but on this occasion we did a light scarify at -5mm and put 5mm hollow tines across them. The course was immaculate when I got back and from that point on it was all about fine-tuning the surfaces."

GETTING (AND HOLDING) A SURFACE

As Neal was traipsing around North America contending with sub-zero temperatures and taking in games of NFL, his thoughts often wandered to the challenges that would present upon his return. At the forefront of his mind was getting the 328 greens consistent and, more importantly, holding them.

Hosting a golf tournament in Coffs Harbour in February isn't exactly ideal. The first two months of the year can be very wet (with historic falls of up to 700mm), while the heat and humidity can be relentless and oppressive. Combined, those factors provide the perfect growing environment for hybrid couchgrasses and no amount of PGR will combat such steroidal influences.

That isn't to say they weren't a part of Neal's arsenal. On the contrary, Neal put out PGR applications religiously and even found himself out on course at 11pm on the Wednesday of the week prior to the tournament making one last application in a bid to get them under control. Mowing and grooming regimes also ramped up, with greens sometimes cut up to three times a day from three weeks out. The walk-behind mowers were fitted with grooming reels for the morning cut, while in the afternoons the triplex mowers went out with dew brooms down cutting back up into the grain.

"The 328 is very hard work at that time of year because it grows so quickly," says Neal, who also called on RACV Royal Pines and Australian PGA host superintendent Lincoln Coombes for some advice. "They get very open and the 328 essentially tries to outcompete itself, so we put a lot of effort into grooming them and getting them consistent.

"At the end of the day we are a resort course and we want people to keep returning, so we can't have the greens at 11 feet all the time, especially when you have 6-8 per cent slopes on the some of them. So to try and get the greens to a point where they were accepted by the Ladies European Tour was the hardest part I think. But the feedback we received about their consistency was very pleasing.

"We knew we could make the rest of the course present and play well, which was the 'catch 22' situation we were in. At that time of year, from an aesthetic point of view, the course is green and looks a million dollars, but at the same time the greens are at their most difficult to manage."

One thing that did work in Neal's favour, temporarily at least, was the relatively dry start to the year. It wasn't until a 90mm dump about two weeks out from the tournament that Bonville had its first significant rainfall of the year which couldn't have come at a better time. Come tournament week, however, and the rain did Neal few favours. More than 50mm fell across the course on Tuesday and Wednesday, followed up by a further 14mm on Saturday. Then came Sunday's final round downpour which took the weekly total to 116mm. As Neal attests, that's pretty mild for that time of year.

Despite the rain, the crew were able to get the majority of their preparations completed as planned. In the mornings, greens were walk-mowed at 3mm with groomers set at +1 and then rolled, while in



Scott Jennings (above) and Bonville 3IC Ricky Welch (below) cut greens following the third round

the afternoons they were cut again with triplexes or walk-behinds with brooms down and into the grain. The Greenlees Park and Wintergreen fairways were cut at 12mm (two units per nine), while surrounds were kept at 16mm.

LOCAL KNOWLEDGE

Due to the tournament's short notice, Bonville's usual crew of 12 was bolstered with eight casuals in the lead-up to Christmas. Normally four casuals would come on board around that time, but with plenty of work to tend to, such as bunkers and turfing out high wear areas around cart paths, the resort put on the additional staff who stayed through until the Classic.



BioNUTRIENTS

8-0-9 For Greens, Fairways & Sports Turf

- Organic Biostimulant & Soil Conditioner
- Contains a Natural Rhizosphere Bacteria
- Revitalizes Soil
- Promotes Faster & Stronger Rooting
- Improves Poor Soil Conditions



oasis turf

14 Sonia Street, Carrum Downs, 3201
(03) 9708 2911 • www.oasisturf.com.au



David Lewis, who was on the crew when Bonville first opened in the 1990s, came out of retirement to assist with tournament preparations



Bonville assistant superintendent Aaron Banks stimps the 18th green

For the tournament itself, Neal was grateful for the assistance of a number of experienced volunteers. Among them were former course superintendent now Toro rep Luke Crawford and Nuturf territory manager Caine James who served his apprenticeship alongside Neal. Former Bonville assistant and now Sawtell Golf Club superintendent Matt Duff returned, as did former mechanic and now Woolgoolga superintendent Harley Copeland. Retiree Dave Lewis, who was part of the crew when Bonville first opened and only stopped a few years ago after suffering a stroke, also jumped on a fairway mower for the week.

"I was pretty conscious with the volunteers," explains Neal. "It's a very unique property and the last thing I needed was guys who didn't know it trying to navigate their way around in the dark at 3am. So to have former crew members like Matty, Harley and Lewie putting their hand up when the tournament was announced was great. I'm pretty proud of that fact; that people that have worked for you before are willing to come back and help out. It was great peace of mind for me knowing they knew their way around and that they'd do a great job."

While the crew thankfully knew their way around, the same couldn't be said for the 144 players who

arrived at the Australian Ladies Classic on the Thursday. Bonville is a behemoth of a layout and sprawls across more than 200 hectares, with 12 kilometres of cart paths. Add to that the elevation changes and it's not the most walkable of courses.

For example, once golfers have putt out on the 7th green, they are faced with a 780m trek to the 8th tee. You also need some good hiking boots between 1 and 2, 6 and 7, 8 and 9, 9 and 10, 13 and 14, 15 and 16... It's long and when combined with the heat and humidity, carts are a necessity.

Tournament officials were well aware of this in their initial course visits and had plans to have volunteers ferry players and caddies in carts between some of the holes. However, once the practice rounds had been completed it soon became a bit of a talking point, so on the eve of the tournament the unprecedented step was taken to allow players to use carts for all four days of the tournament.

Apparently it is just the second time in LET history that carts have been allowed and it did cause Neal a few headaches, especially given the rain. To make matters worse, the week before the tournament the crew had removed the kilometres of directional rope and stakes that are normally out on course, but when the call was made that carts would be used there was no time to get them back out. To Neal's relief the players were very courteous and respected the course, with only the 18th roped off to prevent cart lines from showing up on TV coming down Bonville's picturesque final stretch.

INCREDIBLE WEEK

Despite those last minute changes and the challenges provided by the weather, overall the players were rapt with the course. American Christina Kim said her visit to the region was "absolutely breathtaking" and that it was "an incredible week" both on and off the course. The LET and Golf NSW were also quick to laud Bonville and all its staff for bringing the event together so quickly and successfully.

"To be given such short notice and present the golf course the way we did, I am very proud of the boys," reflects Neal. "They put in some real long hours and it was great to see the way they gelled and embraced what we were trying to achieve."

"I guess the best part for us is the exposure it has given Bonville. The tournament was beamed live here and around the world. A lot of people in Australia have probably heard of Bonville and seen the odd photo, but hopefully now that they have seen it on TV and seen how special this place is, it'll encourage them to come and check it out."

"As a superintendent you aspire to hold these sorts of events and having experienced one now it was great to be a part of. The tournament has given the crew the chance to present the course at peak condition and to the best of their abilities as greenkeepers. And the bonus is we get to do it for another four years! At least next time we'll have 43 more weeks to prepare for it!" 🙌



Take a bow... the Bonville Golf Resort tournament crew

MEDALLION: formulated for explosive contact activity

When disease hits, MEDALLION contact fungicide delivers effective control you can trust. Its naturally occurring active ingredient explodes spores on the leaf, in the thatch and beneath the soil's surface, going beyond any other contact fungicide.

MEDALLION:

- Rapidly stops pathogens with fast, explosive knockdown
- Stops disease in multiple places to dramatically reduce disease pressure
- Forms a long-lasting protective shield against disease
- Easy to use and mix with liquid suspension concentrate
- Offers broad spectrum control against diseases such as Anthracnose, Dollar Spot and Winter Fusarium



syngenta®

For more information ask your Syngenta Agent or go to 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 Syngenta Group Company. ™Trademark of a Syngenta Group Company. All products written in uppercase are registered trademarks of a Syngenta Group Company. © 2018 Syngenta. AD18-070

®



Maitland made

Maitland City Council's
Brian Worboys and Keith
McPhee write about the
major redevelopment
of Maitland No.1
Sportsground which was
christened in February with
an NRL trial match between
Parramatta and Newcastle.

Above: Maitland No.1 Sportsground looking a picture ahead of February's NRL trial match. The \$600,000 project to resurface the ground was part of an \$8.6 million overhaul of the entire complex

Maitland No. 1 Sportsground was first developed in 1932 on the site of the old path of the Hunter River that changed course in the late 19th Century. The project was part of a publicly funded work creation scheme and over the decades has been a centrepiece for the local community. The ground has predominantly been home to the local rugby league team, the Maitland Pickers, but it has also hosted a number of community events throughout its 80-year history including the Crusty Demons, numerous concerts and even the World Series Cricket Country Cup in 1978.

In February 2014, the NSW Government committed to a jointly funded project with Maitland City Council to redevelop the sportsground and construct a new 1100-seat grandstand. The total cost of the project was \$8.6 million, with the Hunter Infrastructure and Investment Fund contributing \$5.6 million towards its completion.

Before the project started, council staff completed some preliminary investigations into the site. Soil analysis suggested that the existing soil type was a clayey silty loam. It was always known by

staff that this field was one of the first to be playable after any significant rainfall. Field tests indicated the infiltration rate was around 12mm/hr and soil pH high.

The geologist's log from the installation of the bore pump in 1979 stated that topsoil existed for four metres down the profile, another 3m of sand, then 3.2m of gravel. So, although infiltration rate was slow, the topsoil profile was large enough for water to continue through the profile. The problem was that the top 300mm of soil was contaminated with thatch build up, while bicarbonates and iron levels were extremely elevated due to the quality of the bore water applied for irrigation over a number of years. An acid injection system was contemplated at the time, but was not feasible for the site.

CONSTRUCTION BEGINS

North Construction was awarded the contract for the project which included the demolition of the three old grandstands on 9 June 2016, before the rebuild of the new grandstand started on 27 June 2016. The majority of the project funding was prioritised for the construction of the grandstand, with just over \$600,000 allocated for the actual playing surface.

Following the demolition and major construction works of the grandstand, establishment works to the playing surface started on 1 December 2016. Council managed the supply and installation of the turf, while the irrigation for the field was installed by a subcontractor of North Construction. It was decided that to make the project more viable, a two-stage



plan was needed where drainage would be included as the second part of the programme after the field was established.

Council's Coordinator for Recreation and Noxious Weeds Brian Worboys contacted Andrew Peart, then senior agronomist with AGCSATech, for an independent assessment of the sportsground. After comparing two HAL project reports, Andrew's findings were similar to what council staff had originally found, with a decision on Grand Prix couchgrass as the turf of choice.

Grand Prix had been established 18 months earlier on another Maitland sportsfield and was being closely monitored during that time. This grass seemed to be very hard wearing and would be an excellent choice, although thatch build-up caused some reservations as No. 1 Sportsground was not used as much as the test sports field. At this stage using washed turf was considered, but in the end, much to our disappointment, the cost was too prohibitive.

To address the high bicarbonate bore water, it was decided that town water be used to irrigate the sportsground. Following several soil tests it was decided that the top 300mm be removed and mixed with a suitable soil, one with a higher percentage of medium sands to dilute the existing profile.

After months of comparing and testing local soils for compatibility with existing soils, a suitable mix was identified and the process of importing and mixing began. The existing soil, as well as 4602 cubic metres of imported material, was stockpiled

on the oval. The mixing process was a 50/50 mix of existing soil and imported soil mixed with an excavator with a BVR screen bucket.

The subbase was graded to the design grade and then ripped with the grader to ensure we didn't create an impervious layer and that moisture would freely move through the profile. A swamp dozer was used due to its minimum ground pressure to spread the mixed soil. A Level Best level on a posi-track was used for the final trim to the design level to achieve the 300mm rootzone.

Drainage mainlines were installed (for stage two) around the edge of the field. The irrigation system was designed by Rex Sullings of Aqueduct Consultancy and installed by Ben Howarth of Right Water Pumps & Irrigation. It included a 30,000 litre storage tank fed by town water, 81 8005 Rain Bird sprinklers and a Toro Sentinel controller.

TOUGH TIMES

It was decided that the turf would be laid in three stages as we needed to ensure water could be adequately supplied to the new turf. The first third would be turfed and watered and then we would repeat the process four to seven days apart until the field was fully covered. By 30 January 2017 the majority of surface levelling was completed and two days later saw the first of three stages of Grand Prix being supplied and laid by Evergreen Turf's Mark Warwick.

The existing water supply line to the tank was only a small diameter pipe and the demand on the town water supply couldn't keep up with the irrigation, so a water tanker was hired to keep the 30,000 litre tank topped up with water. In the first few days of watering the new turf, the water tanker filled the tank 10 times!

A new water supply line was installed as part of the grandstand development, which meant that the town water supply had the capacity to maintain the irrigation requirements. Two days before planting



The second stage of the surface redevelopment was the installation of a sand slit drainage system

The old Maitland No.1 ground and grandstands prior to the start of the project in mid-2016. The ground's existing top layer was stripped away and removed





The new rootzone material was blended on site



The surface was laser levelled prior to turfing

Below right: Curvularia and nematodes caused a few concerns in the lead-up to the trial match

Below: Grand Prix couchgrass was chosen as the preferred turf variety and was laid in three sections



the third and final stage on 9 February, the main water supply line that was filling the tank was cut by works on the grandstand. This meant that a smaller temporary line had to be installed to fill the tank.

We could cope with this setup initially, but then the third section was planted on the Friday. On Saturday and Sunday temperatures reached 47 degrees, so the water cart continued to supply water over the weekend while staff were required to assist the irrigation by manning hoses from the Friday until a cool change arrived on Sunday afternoon. Only a few strips of turf were lost and everything seemed to be back on track.

As part of the routine assessment process we noticed that the turf growth started to be retarded and Living Turf was asked to spray the ground for couch mite. The initial spray was completed and a follow up treatment was planned, but then storms hit and postponed planned treatments. Rescheduling occurred, but then equipment breakdowns, previously booked treatments and the city's first cold snap put the recovery further behind schedule.

Following consultation with our managers, it was decided that the surface wasn't in a suitable condition to allow the field to be re-opened. A report was tabled at a council meeting with a recommendation for the commissioning of the field to be postponed until 2018.

This now gave us time, and with the project coming in under budget, to execute the second stage of the plan and install a sand slit drainage system from Turf Drain Australia. Designed by Peter

Speight, lateral drains were added 450mm deep at 2.5m spacings and hooked up to the existing mainlines. Sand slits (180mm deep at 90 degrees to the laterals) were then added with the field finally sand grooved. The drainage was completed in September 2017. The field was then topdressed to repair any surface deviations and a fertiliser and insecticide programme implemented to get the ground through to the commissioning date.

NRL ACCOLADES

The launch of Maitland No. 1 Sportsground was celebrated by a blockbuster NRL trial match between Newcastle and Parramatta on Saturday 24 February, 2018. To ensure the ground was ready, it was topdressed again in December 2017 with the same drainage sand to ensure consistency and no layering of the drainage system.

From December and up until the first match, the Toro irrigation system and TurfGuard moisture sensors were used to ensure soil moisture content remained within the low and high set points as Mother Nature turned up the heat. The irrigation system was scheduled to operate every night and water as needed based on the moisture sensors.

With hot and humid weather at the end of January and February, the oval wasn't performing like it should have been. We also had no response from the monthly fertiliser applications and the grass showed little growth with patches starting to turn yellow. Testing was completed by Living Turf and results returned in early February showed that we had high levels of disease, mainly curvularia, as well as stubby nematodes. With several applications of fungicides and nematicides in mid-February, we were able to turn the poor looking turf surface around ready for the opening game.

Six games were played on the surface as part of the launch with very little damage evident. We also received a large amount of compliments from players and coaches on how well it played. Knight's coach Nathan Brown commented that if Maitland Sportsground was "not the best country ground around, it would be in the top couple".

It certainly has been a rollercoaster of emotions and a huge learning experience for all of us over the last 18 months. The next challenge coming up next year will be the start of a new \$10.5 million Regional Sportsground Complex that will connect to Maitland No. 1 Sportsground. The proposed facility will include a 400m synthetic running track, turfed centre and designated athletics areas, along with clubhouse and associated facilities. 🏏



Anthracnose
(*Colletotrichum*
graminicola),

Brown Patch
(*Rhizoctonia solani*),

Dollar Spot
(*Sclerotinia*
homoeocarpa),

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

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

Fusarium
(*Fusarium nivale*,
Microdochium nivale),

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

DISEASE SUCCESS



Ectotrophic Root
Infecting Fungi (ERI)
[Autumn strategy]

Spring Dead Spot
(*Ophiostoma*
narmari),

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

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

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

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

Ready to amp up disease control ?

**This year, turn up the dial on
disease control and turf quality
with Impala Fungicide.**

**Backed by preventative protection and curative results.
Plus a new active ingredient for the Australian turf market.**

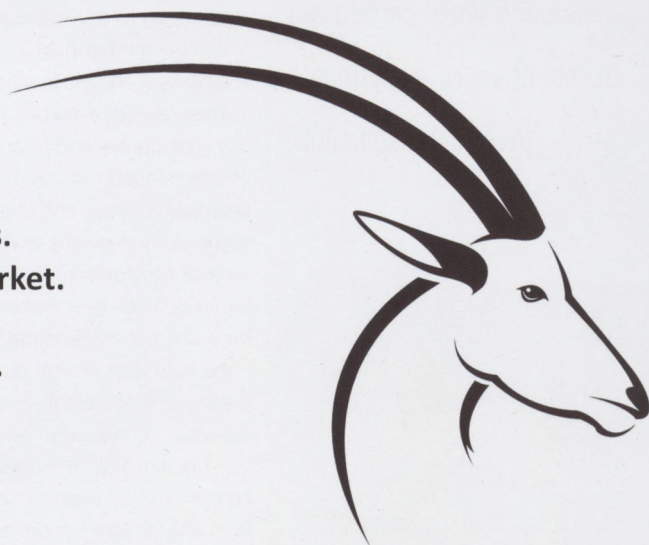
Broad spectrum control of over 10 major turf diseases.

Active Constituents: 96 g/L Azoxystrobin
194 g/L Triticonazole

APVMA Product No.: 80146

TURF
culture

"Innovative & Professional Turf Products"
www.turfculture.com.au



Impala Fungicide



ATM's expert
columnist John
Neylan looks

at the effects of shade in
high maintenance turfgrass
systems and the extensive
research work carried out
in recent years at Sydney's
Avondale Golf Club.

Above: The research undertaken at Avondale Golf Club is the first of its kind in Australia and has demonstrated the impacts that low light has on turf quality, turf density and root growth

Providing there is an adequate turf maintenance programme in place, the surrounding environment has the greatest impact on the performance of turfgrasses prepared as golfing surfaces. To maintain healthy turfgrass on greens, tees and fairways, it is critical they receive adequate sunlight and air movement. If either component is lacking, turf quality will be compromised.

Golf greens are the most intensely maintained turf areas on a golf course; however, even well-constructed putting greens with the best turfgrass varieties will struggle under low light, poor air movement and high humidity.

In order to provide high quality playing surfaces, a healthy and robust turfgrass sward has to be established and maintained. A key element is that it must receive a certain quantum of sunlight each day. The quality and quantity of light is essential for photosynthesis, which converts light energy into chemical energy and then storing the energy as sugars for the plant's growth and health.

Strong growth and good plant health is essential for turfgrasses to withstand the low cutting heights, frequent mowing and the regular rolling required in the preparation of high quality surfaces, in particular greens. Good plant health and growth is also essential for the turf to recover from wear.

Traditionally, it is considered that the most critical time of year for providing sufficient light is from May to late September. For optimum creeping bentgrass growth and health during this period, sunlight required for photosynthesis needs to be at a minimum rate of 10-12mol/m²/day. However, recent research (Richardson, 2017) has indicated that even during mid-summer, turf requires a minimum quantum of light in order to grow and remain healthy.

Prolonged exposure to shade, or more specifically a lack of light, will weaken and potentially kill most turfgrass species and make it impossible to prepare year-round elite level putting surfaces. Because of the effects of shade and poor air circulation, there is a greater requirement for inputs such as fungicides, insecticides, electricity (required to run fans) and the need for turf repair and/or replacement when the turf is damaged.

THE EFFECTS OF SHADE ON TURF

Trees are an integral part of most golf course landscapes in Australia and make a considerable contribution to their aesthetic beauty and playability. From an agronomic perspective trees are often considered a 'weed', albeit a very large one, as trees compete with the turf for space, light and water.

The challenge is finding a compromise that fulfils the architectural requirements of using trees without having a negative impact on the agronomic aspects of growing high quality turfgrass and producing good playing surfaces. The biggest challenge with trees is understanding that they will continue to grow in height and width for 30-plus years which changes the local 'environment', including space, shade and air movement. In some situations, trees have come to overwhelm the course from an agronomic and playability standpoint, causing widespread turf problems and imposing restrictions on the original strategic intent of the golf course architect.

While trees decrease the amount of available light for photosynthesis, they also reduce air movement across the turf and increase the humidity in the turf canopy. During the summer months these conditions increase the heat stress on the turfgrass and increase the incidence of pests and diseases.

Air flow helps cool the turfgrass canopy and is especially important for cool-season grasses during summer heat. It is important to note that a green that receives very good sunlight but poor air movement may still perform poorly. Adequate light and good air movement are critical in the preparation of high quality turf surfaces.

Shade on golf courses, in particular on bentgrass putting greens and warm-season grass tees, affects the turf in several significant ways including;

- Moderated temperature (cooler during winter and hotter in summer);
- Reduced wind speed (less air circulation and less drying);
- Increased relative humidity;
- Greater duration of leaf wetness;
- Higher CO₂ level;
- Reduced growth rates; and
- Reduced root mass.

Shade or low light affects the anatomical, morphological and physiological characteristics of the turf (Table 1) which in turn impacts how the turf is managed and the standard of the playing surface (Fry and Huang, 2005). The impacts are;

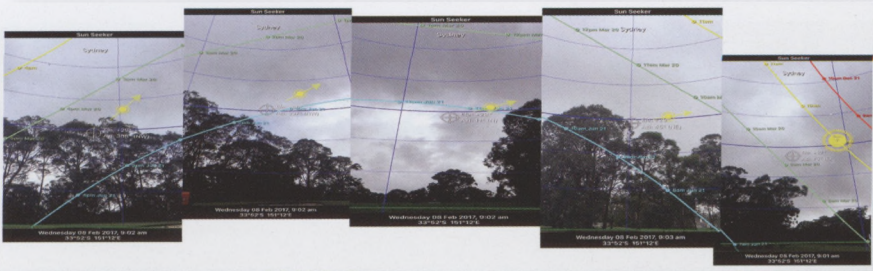
- Accelerated turf thinning;
- Reduced turf recovery from wear;
- Increased disease;
- Increased moss and algae;
- Increased presence of weed species such as *Poa annua*; and
- Overall deterioration in surface playability and presentation.

Turfgrasses have varying degrees of tolerance to shade. However, those turfgrass species that have good shade tolerance also tend to have poor wear tolerance or are unsuitable for most golf course applications in southern Australia. There are no proven turfgrass options in Australia that mitigate the effects of shade while providing high quality golfing surfaces.

AVONDALE GC STUDY

If there is one Australian course superintendent who knows the impact that shade can have on turf, it is Avondale Golf Club's David Warwick. The Sydney-based layout is heavily treed (see photo page 48), with 50 per cent of the course significantly impacted by shade. Seven of the back nine greens and two of the front nine greens have trees on their east, north and west aspects, with only four greens having adequate light.

To better understand the extent of the shade and the impact of available light on turf quality at Avondale, a detailed analysis of each green and several tees was undertaken during 2016 and 2017. The research involved measuring light levels on each green, determining the path of the sun in relation to the treescape, taking photographs during the day to document the shade levels and assessing turf quality parameters. To quantify the impact of the trees, several measurements were undertaken;



Sunseeker application: The Sunseeker mobile/tablet application (\$14.99, available on Apple and Android devices) provides a flat compass view and an augmented reality 3D view showing the solar path, its hour intervals, its equinox (when day-time and night-time hours are of approximately equal duration), winter and summer solstice paths (shortest and longest days), rise and set times and a map view showing solar direction for each daylight hour (see photo above).

Sunseeker provides a useful way to map the path of the sun for shaded areas in relation to the surrounding treescape. The data collected provides a means of identifying key trees that block the sun and to identify the number of sunshine hours.

Available light: The available light, or more importantly the Photosynthetically Available Radiation (PAR), was measured on three occasions – mid-winter, spring equinox and mid-summer using the WatchDog Model 2475 Plant Growth Station. The device was set up on each green and operated from

The Sunseeker application provides an excellent visual assessment of the available sunlight for each green. The red line indicates the summer solstice path and blue line the winter solstice path. The green line represents the equinox and yellow line the current path of the sun on that day

TABLE 1: ANATOMICAL, MORPHOLOGICAL AND PHYSIOLOGICAL EFFECTS ON TURFGRASSES¹

EFFECTS	MANIFESTATIONS
Anatomical <ul style="list-style-type: none"> ● Thinner cuticle ● Fewer chloroplasts 	<ul style="list-style-type: none"> ● The turfgrass plants have reduced photosynthesis. ● The turf has slower recovery from wear and other stresses such as pests and disease. ● The plant is weakened and less tolerant to wear and invasion by disease. ● The playing surfaces tend to have a thinner turf cover.
Morphological <ul style="list-style-type: none"> ● Thinner, narrower leaves ● Longer leaves and internodes ● Lower shoot density ● More upright growth 	<ul style="list-style-type: none"> ● The turfgrass plants tend to produce more upright growth and there is reduced turf density. The main impact is that the putting surface is not as tight and smooth compared to greens in an open position.
Physiological <ul style="list-style-type: none"> ● Higher chlorophyll content ● Greater production of gibberellic acid ● Lower photosynthetic rate ● Lower respiration rate ● Lower transpiration rate ● Greater succulence ● Lower carbohydrate reserves 	<ul style="list-style-type: none"> ● The turfgrass has a reduced ability to grow and recover from the frequent mowing and preparation required for high level golfing surfaces and in particular greens. ● The turf will be softer which results in greater pitch mark damage. ● The succulent turf is also more susceptible to infection from diseases. ● Reduced root system which decreases the ability of the turf to tolerate periods of high temperatures without frequent irrigation.

¹ Fry, J., and B. Huang. 2005. Applied Turfgrass Science and Physiology.



Photos of Avondale Golf Club's 12th green taken at different times on 14 June 2016 – 8.05am (photo 1), 11.09am (2), 12.10pm (3) and 1.14pm (4)

sunrise until sunset. It has data logging capabilities that allow it to measure and record the light values as frequently as every minute and records light striking the turf over a full day. A total light load can then be calculated from the data.

PAR light is measured in units of $\mu\text{mol}/\text{m}^2/\text{sec}$ and when it is measured it is only an instantaneous measure for that second. In order to best use the data collected the measurements are converted into a total light load per day or the Daily Light Integral (DLI). The light data was used to determine;

- The hours of morning and afternoon light;
- The percent shade;
- The relationships between the available light and the turf quality and plant health parameters; and
- The minimum light requirements to achieve a particular standard of playing surface quality.

Photographs of greens: Photographs were taken of all greens, every hour from sunrise to sunset during mid-winter, spring equinox and mid-summer.

This process is a visual documentation of the shade/available light on each green throughout the day.

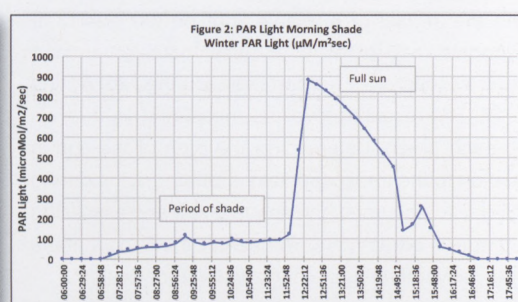
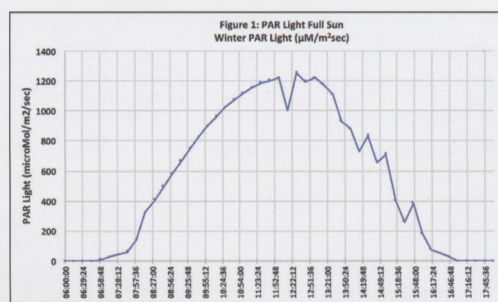
Turf quality assessment: At around the time when the light readings were taken, an assessment of turf quality and turf density was undertaken on greens representing the various levels of light penetration. Each green was divided into four sections and the turf quality was rated using the NTEP turfgrass evaluation guide.

Most visual ratings collected on NTEP trials are based on a 1 to 9 rating scale with 1 being the poorest or lowest and 9 the best or highest rating. In keeping with the high standard of surfaces at Avondale GC and using the 9th green (no shade) as the benchmark, a rating of 7.5 was considered to be the minimum rating for turfgrass quality and density in these assessments.

So, a large amount of data was collected and examples of this are detailed below.

CONTINUED ON PAGE 46

The WatchDog Model 2475 Plant Growth Station measured and recorded light values every 15 minutes. Figure 1 (right) shows winter PAR light in full sun and Figure 2 (far right) shows winter PAR light in morning shade



For Earth, For Life
Kubota

**GETS THE
JOB DONE**
every time it hits
the course.



LM315



GM2800-B



LM2700



SP05 BUNKER RAKE

**QUALITY PERFORMANCE IS THE AIM OF
THE GAME WITH KUBOTA AND BARONESS.**

B-ACT
BARONESS Aggression Cutting Technology

Find out more
about B-ACT at
kubota.com.au

With a complete line up of greens mowers, fairway mowers, bunker rakes and aerators, Baroness products are renowned worldwide for their high-quality performance and ease of maintenance. Teamed with the ever-versatile Kubota SSV, this powerful partnership drives an exceptional finish in all conditions.

Keep your course well maintained and performing at its peak, with Kubota and Baroness.

FOR MORE INFORMATION ON THE KUBOTA BARONESS RANGE PLEASE CONTACT:
Trent Saunders on 0437 814 392 or baroness@kubota.com.au

KUBOTA
BARONESS

TABLE 2: DAILY LIGHT INTEGRAL FOR EACH MONITORING PERIOD

Green	Daily Light Integral (mol/m ² /day)		
	Winter	Spring	Summer
1	13.9	46.8	53.0
6	8.1	28.6	25.1
7	15.0	50.0	51.2
8	8.9	47.3	53.0
9	24.5	48.7	51.0
12	6.2	29.8	31.4
13	7.1	22.1	27.2
Max available DLI	22	50	53
Min DLI required for bentgrass growth	(10 ¹ - 12)	22 - 28	30
	DLI is insufficient for healthy bentgrass growth		
	DLI is marginal for healthy bentgrass growth		
	DLI is sufficient for healthy bentgrass growth		

¹This is considered to be the absolute minimum.

CONTINUED FROM PAGE 44

DAILY LIGHT INTEGRAL (DLI)

The WatchDog Model 2475 Plant Growth Station measured and recorded the light values every 15 minutes and was plotted for the period of sunrise to sunset (Figures 1 and 2, previous page). In order to best use the data collected, the measurements were converted into a total light load per day or the Daily Light Integral (DLI) (Table 2 above) and compared to the data collected by Dr Mike Richardson (University of Arkansas, pers.comm 2017).

Richardson's work has found that the minimum light requirements for creeping bentgrass are;

- Winter: 10-12mol/m²/day;
- Spring: 22-28mol/m²/day; and
- Summer: 30mol/m²/day.

SUNSEEKER APP AND PHOTOGRAPHS

The Sunseeker application provides an excellent visual assessment of the available sunlight for each green. An example of what images the Sunseeker app can generate is shown on page 43, while Table 3 below provides observations of sunrise and sunset times and hours of sun received on select greens.

The information collected from the photographs taken by Avondale staff of the greens is summarised below, while examples of the photos taken of the 12th green during one day in winter at different times (approx. 8am, 11am, 12pm and 1pm) are shown on page 44. A sample of the observations were;

Green 1:

- **Winter:** Morning shade from trees. Minimum 50 per cent shade until 11.30am.
- **Spring Equinox:** Clear all day.
- **Summer:** Clear all day.

Green 6:

- **Winter:** Extensive shade throughout the morning. Minimum 50 per cent shade.
- **Spring Equinox:** Early morning shade at front until 10am then clear.
- **Summer:** Open from 9.20am – 4pm.

Green 7:

- **Winter:** Open from 9am – 3pm.
- **Spring Equinox:** Clear between 9.30am – 5pm.
- **Summer:** Mottled light at 8.26am, 9.20am 60 per cent shade. Open from 10.15am – 7pm.

Green 8:

- **Winter:** Shade/partial shade until 10.30am. Some areas shade all day.
- **Spring Equinox:** Shade/partial shade until 10am. Open until 4pm.
- **Summer:** Mottled light at 8.26am, 9.20am 20 per cent shade. Open from 10.15am – 5pm.

Green 9:

- **Winter:** All clear from 8.45am – 3pm.
- **Spring Equinox:** Open from 9am – 4pm.
- **Summer:** Open from 9.20am – 5.30pm.

Green 12:

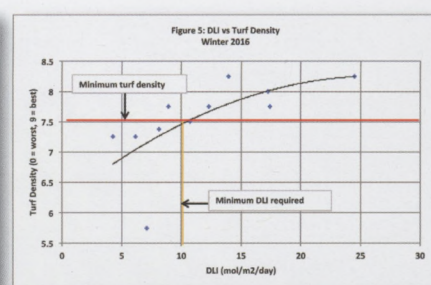
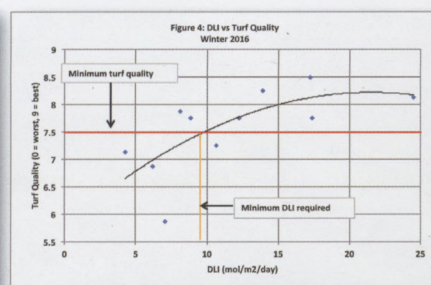
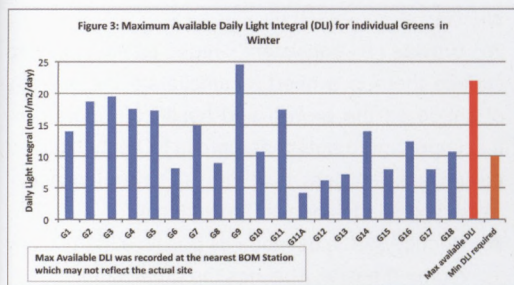
- **Winter:** Moving partial shade all day on the right hand side of the green.
- **Spring Equinox:** 7am 75 per cent green has sun. Right hand side and rear some shade all day. Shade at 3pm.
- **Summer:** Right hand side and rear some shade most of the day. Shade at 4.40pm at rear and right hand side.

The hours of sunlight were determined from the photographs and Sunseeker images and where required verified against the light measurements. The data collected was then compared against the minimum light requirements for maintaining bentgrass. Dr. Micah Woods (pers. com. 2017) has suggested that a minimum of five hours of sunlight is required to maintain bentgrass, but does require micromanagement of greens at these levels. It should be noted that other micro-climate factors, such as increased humidity and poor air circulation, compound the effects of minimum sunlight hours.

TABLE 3: SAMPLE OF HOURS OF AVAILABLE LIGHT AS DETERMINED BY THE SUNSEEKER APPLICATION

Green	Winter			Spring Equinox			Summer		
	'Sunrise' on green	'Sunset' on green	Hours of sun	'Sunrise' on green	'Sunset' on green	Hours of sun	'Sunrise' on green	'Sunset' on green	Hours of sun
1	0900	1300	4	0830	Late	>6	Minimal tree interference		
6	0830	1300	4.5	0830	>1400	>5.5	0830	1530	7
7	0800	1530	7	0800	>1500	>7	0700	>1500	>8
8	0900	1200	3	0900	>1500	>6	0800	>1500	>7
9	0800	1530	7.5	0800	>1600	>8	0700	>1600	>9
12	1000 ¹	1200	2	0900	1700	5 ²	0830	1700	5 ¹
13	1100	1400	3	0900	Clear	>6	0800	Clear	>6

¹ Sporadic light from 'sunrise' throughout the morning; ² Broken light throughout the day.



RELATIONSHIP BETWEEN DLI AND TURF CHARACTERISTICS

The Daily Light Integral (DLI) was plotted for all greens and compared against the maximum available light as measured at the nearest Bureau of Meteorology station (Figure 3, above). The results for the DLI on the test greens were compared against turfgrass quality and density. The relationships were generally strong with the following observations made;

Winter:

- **DLI vs turfgrass quality:** The absolute minimum DLI requirement to sustain the required turfgrass quality is 10mol/m²/day (Figure 4, above).
- **DLI vs turfgrass density:** The absolute minimum DLI requirement to sustain the required turfgrass density is 10-11mol/m²/day (Figure 5, above).
- **AM light vs turfgrass quality:** There is a moderate relationship between the amount of morning light received and turfgrass quality. When reviewed in context with afternoon light, the amount of morning light received is of high importance.
- **PM light vs turfgrass quality:** The relationship between the amount of afternoon light received and turfgrass quality is very weak and reinforces the importance of the amount of morning light received.
- **AM shade vs turfgrass quality:** The data suggests that when morning shade exceeds 40 per cent the turfgrass quality declines below the required minimum.
- **Total shade vs turfgrass quality:** The data indicates that when total shade exceeds 70 per cent the turfgrass quality declines below the required minimum.

Spring:

- The relationships between turfgrass quality and density and light are less pronounced when compared to winter. This is due to an overall increase in available light for most greens and temperatures that are ideal for bentgrass growth.
- The strongest relationship is between DLI and turfgrass quality with the absolute minimum DLI requirement to sustain turfgrass quality 20-25mol/m²/day. The research of Dr Richardson indicates that turf performs better at a DLI of 22mol/m²/day because it is not under the extra stresses associated with summer temperatures.

Summer:

- The relationship between turfgrass quality and density and light are less pronounced and is due to an overall increase in the available light for most greens. Where the data becomes more complicated is the impact of the trees on air circulation and increased localised humidity which creates greater stress on the bentgrass.
- There is a moderate relationship between the DLI and turfgrass quality with the minimum DLI requirement to sustain turfgrass quality 28mol/m²/day. This result fits well with the research of Dr Richardson who found that the mid-summer numbers of around 30mol/m²/day were the breaking point for when bentgrass starts to fail.
- There was a moderate relationship between morning shade and turfgrass quality. The data suggests that when morning shade exceeds 30 per cent the turfgrass quality declines below the required minimum. The shade effect most likely causes secondary problems related to increased surface moisture and greater humidity.

Figure 3 (far left): The Daily Light Integral (DLI) was plotted for all greens and compared against the maximum available light as measured at the nearest Bureau of Meteorology weather station

Figures 4 and 5 (above): Data from Avondale found that the absolute minimum DLI requirement to sustain required turfgrass quality in winter was 10mol/m²/day (Figure 4), while the absolute minimum DLI requirement to sustain required turfgrass density was 10-11mol/m²/day (Figure 5)



Gippsland Premium Quarries

Rosedale Gold Turf Sand Now Available!

Rosedale Gold is a quality stand-alone turf sand that can be blended to achieve USGA standards, or used as the perfect base material for other soil blends

Rosedale Sand features:

- Consistent particle distribution
- Neutral pH
- Hydraulic conductivity

We also supply - Water Services Association of Australia approved filter, pipe embedment and drainage products.

Our sands are a non-dazzling beige colour, perfect for all sporting applications.

Contact **Ian MacPherson** to discuss your requirements
03 5626 6499 enq@gpq.net.au www.gpqquarries.com.au





Avondale Golf Club is heavily tree-lined with 50 per cent of the course significantly impacted by shade

- The relationship between PM shade and turfgrass quality is very weak and supports the premise that morning shade and light have the greatest effect on turfgrass quality.

RELATIONSHIP BETWEEN SHADE AND ROOT GROWTH

During the Avondale study, root growth and health was also examined. Because of the age of the greens and the associated organic matter accumulation, there was minimal difference between shaded and non-shaded greens.

Between April and September 2017 Avondale's greens were resurfaced with bentgrass and since reopening, as part of another study examining the benefits of irrigating with highly oxygenated water, root growth measurements have been taken monthly. The data was analysed comparing shaded greens and non-shaded greens (Figures 6 and 7 below) and while this data is relatively limited, it has demonstrated the negative influence of inadequate light on root mass which in turn affects the heat and drought tolerance of the turf.

With the root mass in the 0-40mm layer there is a strong to very strong relationship between root mass and time of year. In the 0-40mm layer there was a greater root mass in the greens receiving full sun compared to the shaded greens.

The root mass data for the 0-200mm layer showed a moderate relationship for the full sun greens and a very strong relationship for the shaded greens. There was a greater root mass in the greens receiving full sun compared to the shaded greens, with the shaded greens exhibiting a greater decline in root mass over the summer months.

MANAGING SHADE

To provide a consistent, high quality playing surface there is a need to ameliorate the impacts of shade on the growth and health of turfgrasses. It is important to note that there is NO substitute for having sufficient light, but there are several means of managing shade-affected turf including;

- Reduce shade as much as possible, particularly morning shade. This has the greatest effect.
- Minimise wear in shade-affected areas (e.g.: roping off high traffic areas, pin movements).
- Regular surface aeration to improve soil oxygen levels and to relieve compaction.
- Lifting cutting heights. The problem here is that it affects the performance of the putting surface compared to other greens on the golf course.
- Fertility – low N, high Fe and K.
- Regular fungicide and insecticide applications.
- Use of PGRs to control vertical growth and improve turf density and surface quality.
- Hand watering only and regular soil moisture monitoring with a moisture probe.
- Use of fans to provide improved air movement.
- Grass selection – while there are differences in the shade tolerance of different turfgrass species, there are minimal differences between cultivars of the same species. However, it is still worth establishing plots of different cultivars to assess the potential for improved low light tolerance or, more likely, the ability to cope with the stresses of traffic, humidity and disease.

SUMMARY

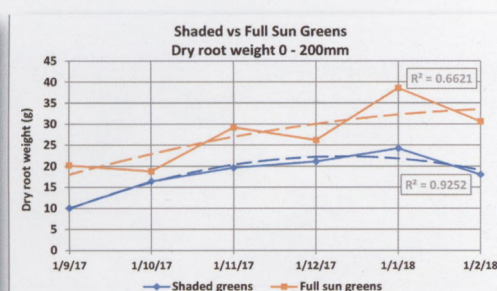
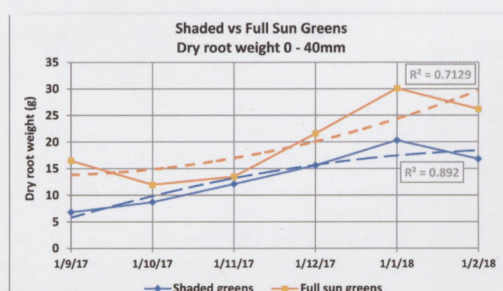
A minimum quantum and quality of light is essential for maintaining healthy turf capable of producing high quality golfing surfaces. The research undertaken at Avondale Golf Club is the first of its kind in Australia and has demonstrated the impacts that low light has on turf quality, turf density and root growth.

The research has also demonstrated there are several tools superintendents can use to provide useful data to demonstrate the extent of shade issues and the problems associated with trees. As the old adage goes, knowledge is power and the more data that superintendents have the easier it will be to demonstrate the challenges they are up against when maintaining turf in such environments.

ACKNOWLEDGEMENTS

John Neylan and ATM are grateful to David Warwick and Avondale Golf Club for allowing publication of this research. 🌟

Figures 6 and 7: Root mass measurements (dry root weight) at 0-40mm depth (Figure 6, right) and at 0-200mm depth (Figure 7, far right) for shaded and full sun greens



FOR THE FINEST FINISH

"Using the Eclipse®322 has saved us time and money. We are able to cut our greens for a whole week on one tank of fuel; it is the most economical machine that I have ever come across.

I am able to electronically programme the frequency of cut and mow speed so I know that every hole is being cut to the same high standards, regardless of who is sat on the machine. Precision is key in this industry, and Jacobsen makes this possible."

Russell Fletcher,
Course Superintendent, St. Michael's Golf Club



OFFICIAL SUPPLIER
2018 RYDER CUP

Call **1800 465 226** or visit
www.jacobsen.com to find your local dealer.

www.jacobsen.com

facebook

twitter

YouTube



JACOBSEN

Cutting back

Golf course maintenance is a costly exercise, but tough times shouldn't mean reckless cuts to operating budgets to appease the bottom line. USGA agronomist Bob Brame identifies the top five mistakes golf clubs should avoid when needing to make budget adjustments.

When there is a need to reduce the budget, it should come with the realisation that the end product, in this case the golf course, will likely change. Reducing inputs and expecting the same output is very seldom realistic

The purpose of a golf facility maintenance budget is to produce desired course conditioning and playability. When aligned with the intended end product, preferably via written and implemented maintenance standards, the operating budget will ensure that agronomics, economics and even politics at the golf facility are in proper balance.

When there is a need to reduce the budget, it should come with the realisation that the end product, in this case the golf course, will likely change. Reducing inputs and expecting the same output is very seldom realistic. This does not necessarily mean that change is bad, but it does point to the importance of being careful with how change is applied. This article will present the top five mistakes to avoid when maintenance costs must be reduced.

1. FAILING TO ADDRESS INFRASTRUCTURE

Infrastructure includes the equipment inventory, maintenance facility, staffing, irrigation system, drainage network and golf course architecture (or design features). In short, the maintenance infrastructure is the behind-the-scenes support that facilitates routine, day-to-day maintenance of the golf course.

It is easy to understand that the amount of equipment and staff will directly impact what can be achieved on the golf course. Architectural features also impact the maintenance programme and costs, which is sometimes overlooked by golfers. For instance, maintaining steep bunker banks requires more staff and equipment than does the care of softer terrain and design features.

The decision must be made to either spend the resources to properly care for the difficult-to-maintain area (possibly at the expense of other areas of the course) or alter the area to conserve resources that might be better used elsewhere. The same can be applied to irrigation or drainage limitations that force the need for more staff.

Often, even when more staff is added to counter infrastructure limitations, the end product will remain compromised, as will budget

efficiency. Clearly, a solid infrastructure will reduce maintenance costs and allow what is being invested to go further.

Proper upkeep, replacement and updating of golf course infrastructure will maximise life expectancy. Equipment must be properly maintained to produce good results, with the same applying to the irrigation system, drainage network and maintenance complex. Sharp mower blades, for example, increase fuel efficiency while also improving turf quality and playability.

A straightforward need, such as keeping irrigation heads level with the surface, can significantly improve the uniformity of the irrigation pattern. Sprinklers frequently slip below the surface over time, so regular maintenance is needed to correct this and ensure optimum irrigation efficiency. Likewise, proper upkeep of the maintenance complex will improve safety and efficiency.

In summary, it is very important for the maintenance infrastructure to be in sync with, and support, desired conditioning and available funding.

2. CUTTING THE MOST EXPERIENCED OR HIGHER-PAID STAFF

Staff salaries, wages and benefits often comprise 55 to 70 per cent of a golf course maintenance budget. This makes staffing an inevitable target when budget reductions are needed. It might be suggested that cutting a senior member of the greenkeeping staff, especially when there is more than one, is equivalent to several less-skilled employees.

In fact, this is occasionally applied to the superintendent. The rationale is often that if the superintendent is let go and an assistant superintendent is promoted, then the needed budget reduction will be achieved and, since all other components in the budget are left unchanged, the end product should be unchanged. Wrong! This suggests that experience offers little or no value. Would you be as comfortable with a less-experienced surgeon, even when all licensing and educational requirements have been met?

Bottom: Core aeration is not always popular with golfers, but it is an essential component of a successful maintenance programme. Essential agronomic practices should not be reduced or eliminated to achieve budget savings

Unfortunately, experience is often undervalued and laid aside for what superficially appears to be a quick and easy fix. Also, clubs which cut back staffing levels over winter might realise some costs savings, but this too will compromise the end product. Less labour means important winter projects may not get done.

A winning team is commonly a mix of experienced veterans combined with the youthful enthusiasm of new staff members. While reducing the budget prompts careful review of staff levels, be sure to consider what is needed to achieve the desired product, and do not underestimate the value of experience. As many golf facilities have learned the hard way, rookie mistakes by inexperienced staff on the golf course can be very costly to fix.

3. FAILING TO COMMUNICATE ON COURSE CHANGES

As previously stated, reducing the budget will likely change the end product. Change is not necessarily bad, but failing to communicate it is. Despite change being a reality of life, it is natural to resist. When funding (or lack thereof) necessitates change, communication will have a big impact on how it is received by players.

The superintendent is usually the mastermind behind specific changes in the maintenance programme to cut costs. The details of these changes, along with the short- and long-term impacts on course conditioning, should be explained and approved by decision makers.

Recognising that staff in the pro shop has the most access to players, make sure they understand the details of the changes being made and why they are a necessary part of reducing costs. Even when the board of directors, green committee, owners and staff understand the specifics of 'what, when, and why', golfers won't unless they are told. Start communicating before budget adjustments are applied and change on the golf course becomes evident. Communication should be detailed and accentuate the positive.





Above right: A winning team is commonly a mix of experienced veterans combined with the youthful enthusiasm of new staff members

Above: The value of experience is often underestimated when it comes time to reduce the budget. When cost savings are necessary, carefully consider the many ways experienced staff members contribute to the success of the golf facility

4. CUTTING BACK ON ESSENTIAL AGRONOMIC PRACTICES

To provide healthy, dependable golf turf, all essential agronomic programmes should be continued, even when cost cutting is necessary. Forced budget reductions should instead be applied to secondary practices.

Core aeration and topdressing of putting surfaces are good examples of what should not be cut back. If soil physical analysis and past performance of the greens dictate the need for two core aerations every year, this need will not change simply because cost savings are needed. If core aeration or sand topdressing is suspended or reduced, organic matter can accumulate, which will hold moisture and compromise soil physical properties. The greens then become soft underfoot while being more prone to disease and pest activity.



Pulling back on anything that directly impacts water management is a mistake that will set the stage for compromised dependability, especially during harsh weather.

There is no question that the short-term elimination of core aeration to appease an outing will facilitate some level of increased income. However, such short-sightedness, if it becomes a trend, will eventually cost significantly more than the income from the outing. Written maintenance standards provide the best means of avoiding the mistake of cutting back essential agronomic programmes.

5. PLACING AESTHETICS ABOVE PLAYABILITY

A golf course is maintained to play the game of golf. It is not a park, playground or botanical garden. Uniformly emerald green turf is not only unnecessary for playing the game, it will actually increase maintenance costs by compromising turf health and playability. Certainly, it is possible to kill turfgrass by withholding irrigation at the wrong time,

USGA RELEASES 2018 GREEN CONSTRUCTION RECOMMENDATIONS UPDATE

In February 2018, the USGA released its updated **Recommendations for a Method of Putting Green Construction** which includes new information about material testing and modern construction methods.

Over the past year, a team of scientists, laboratory technicians, golf course builders, architects, superintendents and USGA agronomists worked together to revise the recommendations. The review team met frequently to identify and evaluate possible updates to the last revision released back in 2004. The process included trips to research facilities, testing laboratories and putting green construction projects.

The 2018 USGA Recommendations are not drastically different from the 2004 version. The changes reflect advances in putting green research, technology, testing methods and construction and maintenance techniques. Additionally, the potential benefits and pitfalls of alternative construction methods are recognised and discussed in the USGA publication titled 'Building the USGA

Putting Green: Tips for Success'. A variety of text, video and multimedia resources have also been published to communicate the principles and methodology behind the recommendations.

Some of the notable revisions to the USGA Recommendations in the 2018 version include;

- The Micro-Deval abrasion test (ASTM D6928) has been identified as the preferred method to evaluate the mechanical stability of gravel under ordinary construction. This test replaces the L.A. Abrasion test (ASTM C131);
- Expanded discussion on selecting gravel is now included. There is evidence that placing low-pH rootzone mixtures over high-pH gravel materials may contribute to the formation of iron oxide layers at the rootzone and gravel interface. If given the option, selecting a neutral-pH gravel is recommended;
- Perimeter drains are now to be located at all low points along the perimeter of a green cavity, not just the lowest point;
- Cleanout ports should be installed upstream and downstream of the putting green on the main drainage lines;
- The recommended infiltration rate (Ksat) does not change, but the section discussing the physical properties of the rootzone mixture has been enhanced to better explain the water-holding characteristics of a rootzone mix. The infiltration rate of the mix is de-emphasised while the importance of moisture retention is highlighted;
- The confidence interval for the infiltration rate has increased to 25 per cent to account for the variability of this laboratory test;
- There is expanded information on utilising various organic amendments, along with specifics regarding their chemical and physical characteristics;
- There is more explanation regarding the importance of quality control testing and appropriate testing intervals.

– Addison Barden (USGA)

but too little water is not nearly as problematic as too much water.

Turf health, turf dependability, maintenance costs and playability are threatened when overwatering to achieve the colour green. It is about turf health and course playability, not the colour green.

CONCLUSION

It is understood that there can be situations that mandate cost reductions. Yet, since it is the golf course that anchors nearly every golf operation, it is the golf course that must remain playable with healthy, dependable turf if the facility is to be successful. Avoiding the mistakes discussed in this article will help achieve this objective both now and long into the future.

ACKNOWLEDGEMENTS

ATM wishes to thank the USGA for giving permission to reprint this article. The original article appeared in the 17 May 2013 edition of the USGA's Green Section Record – Vol 51 (10). Bob Brame is a former director of the USGA Green Section's North Central Region.

FURTHER READING

Brame, B. 2004. *The Economy and Golf Course Maintenance.* USGA Green Section Record, March-April 2004, p1-5.

Brame, B. 1997. *The Building Blocks of a Solid*



Left: It is very important for the maintenance infrastructure to be in sync with, and support, desired conditioning and available funding



Maintenance Program. USGA Green Section Record, July-August 1997, p5-7.

Lowe, T. 2005. *Setting Standards.* USGA Green Section Record, September-October 2005, p1-6.

Oatis, D. 2003. *The Ten Most Common Green Committee Mistakes.* USGA Green Section Record, September-October 2003, p1-6. 🏌️

Above: A properly equipped maintenance complex accommodates safe and efficient servicing of equipment, which improves performance and life expectancy

**JT TURF**
People • Passion • Products



JT TURF are proud to distribute and provide after sales support for the Dennis and SISIS range of products

DENNIS sisis
Expert Surfaces

“The SISIS Veemo has the power, speed and finesse to get the job done efficiently and with a very clean finish. It has significantly improved the fairways at Manly Golf Club with the removal of heavy thatch and ongoing light grooming, allowing water to penetrate more efficiently through to our root zone while leaving us with a tighter and firmer playing surface. The independent floating head design hugs the contours of our fairways extremely well.”

Luke Partridge
Course Superintendent, Manly Golf Club

Tel: 02 9601 3995 www.jtturf.com.au email: reception@jtturf.com.au

Commonwealth Golf Club's Course Improvement Programme has seen the planting of around 360,000 native grasses and heathland species to help recapture the club's Melbourne sand belt heritage

ATM's new environmental management columnist Kate Torgersen looks at the recent course improvement and revegetation works undertaken at Commonwealth Golf Club.



Reveg area on Commonwealth's 7th (above) and the site prepped (below). Allowing 12 months' prep time before planting is critical



Starting from scratch

In 2013 Commonwealth Golf Club embarked on a bold three-year Course Improvement Programme (CIP). In addition to the reconstruction of tees and converting them to Grand Prix couchgrass, the CIP also included adjustments to some fairway lines and reconstruction of select bunkers, replacing transition areas with better grass types, re-planting boundaries and a major revegetation programme.

The aim behind the programme was to re-introduce heathland and native grasses to break up the parkland look of the course and create that special 'Commonwealth feel'. Commonwealth's course architect Michael Cocking, from Ogilvy Clayton Cocking Mead, sums up succinctly the intent behind the CIP: "Over many years the landscape at Commonwealth evolved to something resembling a parkland golf course, where the entire property was mown and the roughs had been converted to ryegrass. It was virtually devoid of any indigenous heathland plants and grasses.

"The programme of re-introducing these plants to tee carries and selective sections of rough is helping recapture that unique feel of what sand belt golf courses look like – a combination of wonderfully

shaped 'flushed sand' bunkers, beautiful green complexes and a texture to the ground outside the fairways which can include a mixture of wispy grasses, sand and heath plants."

Over a three-year period the CIP saw approximately 4.5 hectares of mown rough (predominately the areas between tees and fairways and out of play areas) converted to native indigenous vegetation. The new native vegetation areas add great aesthetic value to the course, but more importantly provide enormous environmental benefits and long-term cost savings. In addition to reducing the amount of time spent mowing rough, the club has also realised savings in terms of water and chemical use, while at the same time also creating valuable habitat for local fauna.

Commonwealth course manager Mark Prosser, who has been with the club for 19 years, notes: "When I began the entire course was mown fence line to fence line. Now the native vegetation areas have reduced rough mowing times significantly, saving time on labour, reducing wear and tear on machinery and cutting fuel consumption. Chemical applications to roughs have also been greatly reduced. All these savings are now put back into other aspects of maintaining the course."

GOOD THINGS TAKE TIME

As with any large project of this nature, many lessons were learnt along the way. One of the main ones related to preparation time. All the areas that were chosen to be revegetated had been mown as rough for decades, indicating that the seedbank would be predominately weed species and very little, if any, indigenous seeds. The method of starting from scratch was most suited to these areas.

In saying this, not all sites need to start from scratch; if you believe you have a good seed bank (perhaps overgrown trees have been covering an area known to house indigenous vegetation) all it may take is removing the unwanted species, exposing the soil and waiting to see what appears. Ecological burning can also help promote any native seeds that may reside in the seedbank.

A recommendation to Commonwealth was to ideally have at least 12 months' preparation

time, however, programming challenges made this somewhat difficult. Due to this, some areas only received three to six months' preparation time and that was evident 12 months later with those areas requiring more intensive weed management practices. With those issues resolved, going forward the club made sure the recommended preparation time was met and started preparing sites at least 12 months in advance.

Preparation of each site started with a spray programme to exhaust the seedbank of weeds, while in some areas weed-burning techniques were also employed. The next step leading up to planting (although not always applicable), was scraping off the top layer, usually around 100mm. This left the site with a relatively clean area, allowing the new plants to have a chance to establish without being inundated with weeds.

Although sites may be clean when planted, weeds will always find their way into these areas. A regular weed maintenance programme was implemented and became challenging at times with the large amount of areas that had to be managed and lack of resources. At the beginning of the programme, one horticulturalist managed the entire re-vegetation programme; however, it soon became apparent that more resources were needed and the club now employs a team of three to maintain all the vegetation on course.

The club's horticulturalist worked with the architects and consultant to compile a list of plants that would be suited to the golf course and chosen from those which would have originally been found on the site. One of the main reasons why Commonwealth chose to plant native indigenous species is that once established they are mostly self-sufficient, especially when it comes to water, and they will out-compete the weeds.

Native vegetation in Victoria is classified into distinctive groupings known as Ecological Vegetation Classes (EVCs). These groupings are based on floristic, structural and ecological features of the vegetation. Each EVC has been assigned a distinct descriptive name and number (e.g. Coast Banksia Woodland 002). Different classification systems are used in other states.

The majority of Commonwealth's vegetation comprised species predominately from the 'heathy woodland' EVC, while in the higher dunes sections of the course, species were chosen from the 'sand heath' EVC. Although Commonwealth is within the Melbourne sand belt, it also has some areas on heavier soils which fall under a different EVC (damp-sands, heathy-woodlands).

In total, the revegetation works saw about 300,000 native grasses and 60,000 heathland species planted over the three years. Native grasses were contract grown and planted and the heathland species were all grown from local nurseries. Later in the programme the club invested in its own greenhouse to start growing species on site.



CONSIDERATIONS

Protecting re-established areas is an important aspect of any revegetation programme. Once planted, the areas were roped off for approximately 18 months and marked as ground under repair (GUR) which helped the plants to establish. Once the ropes were removed in certain areas, golfers had begun walking through, so traffic ropes and signs were used to direct the golfers away from the new vegetation areas.

Another important aspect to consider is irrigation. Off-target watering in native vegetation areas can cause an influx of weeds so it is important to ensure irrigation from playing surfaces does not throw into native vegetation areas or is at least minimised as much as possible. Initially, temporary sprinklers were used to help establish the native areas, however, planting at the right time of year (April to September) reduced the club's need to water. In recent years the club has relied on planting through late autumn to early spring and selective watering through a watering tank to reduce off target watering.

Above all, a key fundamental for any revegetation project like this is that patience is a virtue! As the old saying goes 'good things take time' and that is very much a lesson the club garnered throughout this programme according to general manager Peter Parks.

"A distinct learning from the Course Improvement Programme, in particular the revegetation component, was that we initially underestimated the enormity and complexity of the scope of the works," says Parks. "In addition, member education, in particular with regard to managing expectations, was not clear in the early days. Members needed to be told that the revegetation programme is a marathon, not a sprint, and hence it will take time to develop and mature."

REVEGETATION – THE FUNDAMENTALS

- Off-target watering in native vegetation areas can cause an influx of weeds. Ensure irrigation from playing surfaces does not throw into native vegetation areas or is at least minimised.
- Not all sites need to start from scratch. If you believe you have a good seed bank, all it may take is removing the unwanted species, exposing the soil and waiting to see what appears.
- Above all, a key fundamental to remember when planting native vegetation areas is patience. It's a marathon, not a sprint.



The new native vegetation areas have added great aesthetic value to Commonwealth, but more importantly have provided enormous environmental benefits and long-term cost savings





ATM's HR expert Vicki Crowe looks at the delicate task of negotiating a pay rise and provides an update on the Fair Work Commission's recent variations to overtime rates and minimum shift entitlements for those employed under the Registered Clubs Award.

Above: Negotiating a pay rise is primarily about your value to the company and highlighting your future potential



Rising above

Negotiating a pay rise can be awkward, stressful and nerve-wracking. These are typical of the words I hear when people ask for my advice on how they should go about negotiating a pay rise. It's never an easy conversation to have with your employer, but if you prepare well in advance you're more likely to have a successful outcome.

Every company differs in the way they award pay rises. Some link pay to performance and it is discussed as part of the performance review process. Some have a company policy of increasing salaries annually in line with the Consumer Price Index (CPI) or they set a certain percentage, for example 4 per cent, and all employees, regardless of hierarchy, receive the same. Others have no formal process and these are often the most difficult companies to negotiate a pay increase.

Negotiating a pay rise is primarily about your value to the company. If your role doesn't directly contribute to the bottom line (e.g.: a sales role), then it can be tricky to work out what value you bring to the business. The important thing to consider is building a business case. When you are preparing for your discussion, think about what you deliver in your role and provide examples or evidence of your work. Highlight your successes over the past 12 months that demonstrate your value to the company.

Here is a list of areas to consider:

- An area of expertise or knowledge you bring;
- You are highly motivated, reliable, productive and have a strong work ethic;
- You demonstrate initiative and make decisions (if required);
- You deliver above and beyond the amount you are paid;

- You can save the company money in certain areas of the business that assists with justifying your pay rise.

Try to get a salary benchmark by speaking with someone in the industry that you know well enough and that does a similar role. The size of the company must also be considered. If you're working for a small business that is struggling financially, you need to be more conservative with what you ask for.

Above all, however, it is important to get your timing right. If salary reviews are not linked to the performance review process, choose a time when your manager is not overloaded with work or under pressure. Never march into the office and ambush your boss. Instead, flag that you wish to discuss the possibility and that you'd like to make a mutually agreeable time to meet.

Threats too are a big no-no. Saying you will leave if you don't get a rise is tantamount to Russian roulette – your employer may call your bluff. Likewise, don't use the 'he gets paid this, why shouldn't I' gambit to justify you getting a rise. It is all about future potential that you can offer the company rather than past performance.

And finally, be prepared for a 'no'; as the old saying goes there is no harm in asking and maybe by doing so it has planted the seed for a future 'yes'.

IMPORTANT CHANGES

While we are on the topic of remuneration, on 12 December 2017 the Fair Work Commission varied certain overtime rates and minimum shift entitlements for casual and part-time employees employed under the Registered Clubs Award. Many golf clubs around the country have maintenance staff employed on this award, with the changes applying to the first full pay period on or after 1 January 2018.

The changes for part-time employees include;

- Part-time employees are engaged for a minimum of eight hours and less/fewer than 38 ordinary hours per week over a roster cycle.
- Employers and employees must agree on the minimum hours to be worked each week and the times the employee is available to work.
- Part-time employees can be rostered for additional hours during their availability period without getting payment for overtime.
- A part-time employee who regularly works additional hours for 12 months may ask to increase their guaranteed hours. Employers may only refuse on reasonable business grounds.

The changes for casual employees include;

- Casual employees now have an entitlement to overtime pay. They get overtime when working:
 - More than 38 hours per week, or an average of 38 hours per week over a roster cycle (which may not exceed four weeks);
 - More than 12 hours per day or shift;
 - Casuals may also be entitled to a meal allowance when working overtime.

PAY SLIPS

What happens if pay slips aren't given, or don't have the right information on them? Fair Work inspectors can give employers a fine if they:

- Don't include the right information on a pay slip; and/or
- Don't issue pay slips at all or within one working day of paying employees.

Employers can also be penalised if the Fair Work Commission chooses to take the matter to court. In some cases, employers who have not given pay slips may have to prove to a court that they didn't underpay an employee.

Pay slips have to be given to an employee within one working day of pay day, even if an employee is on leave. Pay slips have to be in either electronic form or hard copy and below is a list of what they must include:

- Employer's and employee's name;
- Employer's ABN or CAN;
- Pay period;
- Date of payment;
- Gross and net pay;
- If the employee is paid an hourly rate, the pay slip must include:
 - The ordinary hourly rate;
 - The number of hours worked at that rate;
 - The total dollar amount of pay at that rate;
- Any loadings, allowances, bonuses, incentive-based payments, penalty rates or other paid

entitlements that can be separated out from an employee's ordinary hourly rate;

- The pay rate that applied on the last day of employment;
- Any deductions from the employee's pay, including:
 - The amount and details of each deduction;
 - The name, or name and number of the fund/account the deduction was paid into.
- Any superannuation contributions paid for the employee's benefit, including:
 - The amount of contributions made during the pay period (or amount of contributions that need to be made);
 - The name and/or number of the superannuation fund the contributions were made to;

A common question also asked regarding pay slips is whether leave balances should be included. While it's best practice to show an employee's leave balances on their pay slip, it's not a requirement. In saying that, employers do need to tell employees their leave balances if they ask for them.

Editor's Note: Information provided in this article relating to overtime rates, minimum shift entitlements and pay slips has been sourced from the Fair Work Commission. Visit www.fwc.gov.au. AGCSA members can access free HR advice as part of their membership; please contact the AGCSA office on (03) 9548 8600 if you need assistance. 🙌



When asking for a rise, build a strong business case to support it. Demonstrate that you are highly motivated, reliable, productive and have a strong work ethic

Equipment Solutions

World class machinery for the turf professional



FIRST PRODUCTS



FIRST PRODUCTS
VC60 SCARIFIER



AGRIMETAL BLOWERS



BLEC



GRADEN



GROUNDSMAN



THATCHAWAYS



AMAZONE
PROFIHOPPER



AMAZONE

DAKOTA

Leading Turf Equipment brands from around the world



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, Jordan Tishler 0419 493 164, Brian Taylor 0439 808 840

Re-working Woodlands

The project to convert Woodlands' greens to Mackenzie bentgrass and surrounds to fine fescue is nearing completion. Pictured is the 7th green which was resurfaced in 2015



Woodlands Golf Club superintendent John Mann writes about the extensive project to convert greens and surrounds which is due to finish next April.

Woodlands Golf Club in Melbourne's south east has for a long time been one of the more underrated courses within the famed sand belt. It boasts some of the best short par four holes of any course, while its small strategic greens demand pinpoint accuracy. In recent times the club has invested a significant amount of capital into course and clubhouse improvements, with a key component of this the conversion of greens from Pennncross to a newer bentgrass variety.

Although initial discussions had started in the early 2000s (during Glenn Stuart's tenure as superintendent) about the possibility of replacing the Pennncross greens which had been installed back in the 1980s, it wasn't until 2012 that the first green was replaced. Unfortunately, it took an act of mindless vandalism for this to happen. One night a motorcycle managed to gain access to the golf course and vandalised a number of greens with the 14th suffering the greatest damage. It was at this time that the decision was made to replace the green.

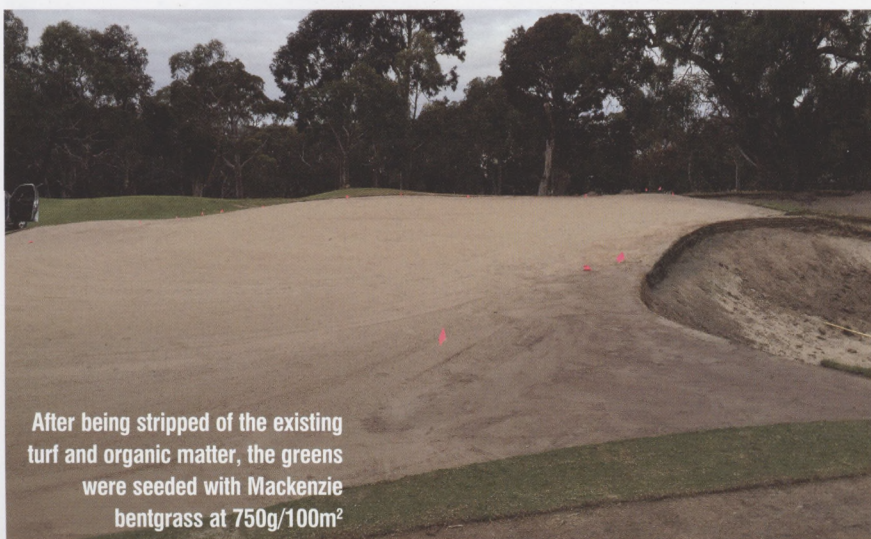
Around the same time, earthworks had already started on the construction of a new 19th hole, designed the club's appointed architect Tom Doak (Renaissance Golf Design), to facilitate a greens replacement programme. The idea behind creating the 19th was so that such a programme could go ahead causing as little disruption as possible.

The new bentgrass variety for the greens chosen by Woodlands superintendent at the time, Rod Tatt, was Mackenzie. The older Pennncross variety was much maligned for its lack of winter growth, especially with the shade issues that prevail at Woodlands, along with some 100 years of organic matter sitting below the surface. *Poa annua* invasion had also become problematic. Mackenzie was seen as a good alternative, providing better winter growth, superior disease tolerance and lower inputs.

Along with replacing the greens, it was also decided to replace the green surrounds with fine fescue. Without talking to Rod specifically on this subject, I presume the decision was made with a view to controlling weed grasses in a significant buffer around the new greens, with several herbicide options available to control both *Poa* and couchgrass selectively in fine fescue.

Fine fescue also provides firm, tight lies around the greens which are synonymous with sandbelt golf. At that stage, fine fescue surrounds had been successfully grown in and presented for tournament play down the road at Royal Melbourne Golf Club for the 2011 Presidents Cup.

The 14th green was seeded in late October 2012 and re-opened in March 2013. During this time the 19th green had also been shaped and seeded with Mackenzie, as had the smaller putting green adjacent to the clubhouse. The 14th surround was seeded with a fine fescue blend. The following spring (2013), the green and surrounds on the 10th and 3rd holes were also completed.



After being stripped of the existing turf and organic matter, the greens were seeded with Mackenzie bentgrass at 750g/100m²

Before I arrived as superintendent at Woodlands, construction methods differed slightly with each of those three greens. The 14th green had a Rocla medium topdressing sand incorporated into the top 100mm, the 10th green's profile was kept the same, while on the 3rd green an imported sand was used to a depth of 300mm. On all occasions the turf and organic matter was stripped, Basamid fumigant rotary hoed in, levels GPS'd and reinstated followed by hydroseeding.

STEPPING UP

When I arrived at Woodlands in early 2015 the greens and surrounds replacement project had lost some momentum with the departure of Rod to take the superintendent's position at Yarra Yarra in mid-2014. It felt the project needed to be accelerated as members were starting to become frustrated by the inconsistencies between the new greens and old greens and there was a feeling like the project was never going to be completed.

I had been fortunate enough to be involved in the re-grassing of both the East and West courses at Royal Melbourne five years earlier and felt confident that the methods used there could make the short trip down Balcombe Road and across the Nepean Highway to Woodlands. I proposed to undertake four greens per year, two in October and two in January, to try and maximise the best of the growing conditions while minimising disruption.

Some compromises would need to be made during the replacement programme to ensure we were able to turn each green around in a three-month window. It was decided to forgo the fumigation process and GPS re-instatement process as this added extra cost and time to the project. I felt retaining the original native sand was imperative to providing firm surfaces in keeping with sandbelt philosophies, which was very important to the membership.



The members were keen to retain the original contours of the greens, so no design changes were made to surface levels. The only minor changes to the greens were to extend the greens out to the bunker edges as this would help maximise pinnable areas. Due to the slow maturation from seed, it was decided to solid turf the fine fescue surrounds to provide an acceptable surface after three months.

The process for each green replacement then proceeded as follows:

- Four weeks out from the start of the construction, any visible couchgrass in the green or immediate collar and bunker edges was knapsack-sprayed with fluazifop (128g/L). This was repeated again after two weeks to ensure good kill.
- Each green would be sod cut to a depth required to remove all turf and organic material, typically around 75mm-100mm, back to the original native sand. The organic material was then shovelled into a front end loader bucket with the loader working only on the sod cut material. This was to ensure no disruption to the surface levels below. At this stage, couch material still visible was knapsack sprayed with glyphosate (540g/L). Fluazifop was not used due to the residual effects inhibiting seed germination.

The 11th green two weeks after sowing with Mackenzie

Once hydroseeded, the greens were covered with Evergreen turf covers. Pictured is the 7th and 13th green complexes



PHOTO: NEARMAP

UC Series

DIFFUSER PUMPS

The Sakuragawa UC Series submersible pumps makes the essential job of aeration for the health of ponds and lakes simple.

- Lightweight and reliable
- Corrosion resistant aluminium alloy
- Thrives in harsh environments

Contact us about our selection of submersible pumps from Sakuragawa.



**Brown Brothers
Engineers
Australia Pty Ltd**

Ph: 1300 4 BBENG
www.brownbros.com.au

DELIVERING PUMPING SOLUTIONS



After initially using seed early on in the project, it was decided to solid turf the fine fescue surrounds so as to bring them into play quicker.

Pictured is the 16th

- Sand splash from the bunker edges was then removed, the surface scarified, boarded and a drag mat used to provide the final finish.
- Once happy with the final levels, the green was seeded. Greens were seeded at 750g/100m². Half of the seeding rate was applied using a Scotts spreader and dimple rolled in with a bunker machine. The other half was pre-germinated and hydroseeded over the top by Michael Riordan from Turf Renovation Australia. This method came about from the successes and failures of previous projects (I equate it to putting \$2 each way on a \$1.50 favourite!)
- Once hydroseeded, the greens were covered with Evergreen turf covers. The period of time the covers were left on was very much weather dependent. The covers are a great help in keeping in moisture, protecting seed from heavy rainfall and helping retain warmth.
- Depending on seasonal variances germination was achieved anywhere from 4-10 days with first mowing after about 14-21 days.

Preparation of the surrounds areas was very similar. The turf and organic matter would be sod cut and removed with a Bobcat skid steer to help maximise efficiency. The underlying sand was then scarified, smoothed, levelled and sprayed with fluazifop to stop any underground couch material from regenerating.

New irrigation was installed to specifically water the fescue and fine fescue sod laid. Australian Seed

and Turf from Carrum contract grew the majority of our fescue sod as well as 2000m² from our onsite nurseries. With the exception of the irrigation install, all work has been undertaken in-house.

The usual problems were encountered along the way, such as damping off, cold starts to spring in Melbourne and trying to establish fine fescue sod during summer. The two take home messages for me so far have been to be liberal with fungicide applications when seedlings are juvenile and not to wait too long before starting mowing.

REALIGNMENT

In addition to the greens and surrounds conversion, during my short tenure at Woodlands we have also addressed some of the boundary issues. Work has been ongoing at the club for some time to resolve the issue of balls leaving the property and on to the increasingly busy White Street from the 2nd tee.

The final piece of the jigsaw was completed in November 2016 when Brian Slawnik from Renaissance Golf Design was onsite for five days to undertake a re-alignment of the 2nd fairway, the creation of three new fairway bunkers and re-shaping of the 3rd tee complex.

While the design changes were taking place, it was decided that in addition to replacing the green and surround that some much needed drainage be installed into the fairway. The 2nd hole has the heaviest soil on the property with very little land movement for large parts. SJM Turf and Civil did a fantastic job installing two kilometres of subsurface drainage and pit infrastructure.

The par five 18th hole has also had a history of balls leaving the club's boundary and troubling the residents of the quieter Bradshaw Street. Renaissance and Slawnik were again engaged to solve the issue which saw the tee being reduced in height, shifted closer to the boundary and minor fairway extensions. Work took place late November/early December 2017 and while the jury is still out on the reduction of golf balls leaving the property, it is likely that an extension of the tree line further along the boundary will be required.

It has been a busy past three years at Woodlands and both the staff and membership will be happy to see the end of the greens and surrounds replacement project. Three greens and their surrounds – 6, 8 and 15 – are still to be completed with two to be knocked off this spring. The club is hosting the 2019 Australian Amateur Championship next January and after this has finished we will resurface the final green and surround. Upon completion (around April 2019) it will mean Woodlands will boast 1ha of Mackenzie bentgrass greens and approximately 1.5ha of fine fescue surrounds turf.

The next major project will be an irrigation upgrade from the current centre line system to a hard line system, as well as a reconfiguration of the 1st and 10th tee complex for both aesthetic and safety reasons. 🌱

The new fairway bunkering on the 2nd hole which has been tweaked to remedy boundary issues



NOCULATE®

MICROBIAL TURF ENHANCEMENT

NOCULATE® GRANULAR FERTILISER RANGE FOR RENOVATION AND MAINTENANCE OF HEALTHIER TURF

PRODUCT	ANALYSIS	RATE 100m ²
NOCULATE® XN	24-0.5-5 plus 1% Fe, 6% Humic Acid	1.5-4.0kg
NOCULATE® COMPLETE	17-1-14 plus 2% Fe, 1% Humic Acid	1.5-4.0kg
NOCULATE® STARTER	7-9-4 plus 8% Humic Acid	1.5-4.0kg

BETWEEN NOCULATE® GRANULAR APPLICATIONS

NOCULATE® LIQUID

LIQUID MICROBIAL INOCULANT

CAN BE INCORPORATED WITH MOST OTHER LIQUID PRODUCTS

globe
GROWING SOLUTIONS

BRANDT®

FOR MORE INFORMATION, CONTACT YOUR LOCAL GLOBE TERRITORY MANAGER
OR VISIT www.globegrowingsolutions.com.au

Australia's sports turf management graduates are among the best equipped in the world and that is as a result of effective communication and understanding between student, employee and education provider in relation to their training



A critical partnership

National Turf Education Working Group co-chair Albert Sherry writes about the importance of having a proactive partnership between turf management education provider, student and employer when it comes to training.

Mention the words 'turf education' in any maintenance facility lunchroom across the country and it will almost certainly lead to deep and meaningful conversations across all levels of the profession, from turf managers right through to apprentices. Most importantly, everyone has an opinion and that opinion is critically important.

It is clear that turf management training in Australia has changed and continues to change. Most would be aware that TAFE in Australia has been transforming in recent years and many will (and do) argue this is either a positive or negative.

We need to understand that the bulk of training doesn't occur at training colleges such as TAFE, but on worksites across the country. This should make sense considering that in a typical 38 hour week an apprentice would attend TAFE for eight hours only. This is reflective in the quality of training of our graduates.

I have been privileged over the past couple of years to sit on the judging panels of both the AGCSA and STA Graduate of the Year Awards and am extremely pleased to report the future of the sports turf industry is in a very good place. What sets the state finalists apart from the rest is that they are being constantly trained at work. Guys like Joel Manson (Anglesea Golf Club, 2017 AGCSA winner) and Joseph Bolton (Wodonga & District Turf Club, 2017 STA winner) are a testament that training in Australia is working.

The challenge we face is to make sure everyone has the same opportunities. One thing that is clear is that sports turf graduates in Australia have

an amazing array of opportunities to progress their careers both here and overseas. However, we do need to find ways to maintain employee engagement in a world where we are being told the typical 'millennial' will have up to 30 jobs in their careers. To do this we need to invest wisely from recruitment and critically through training and development.

WORKING IN TANDEM

Successful organisations meet workforce training needs by working with their employees as a 'partner' in training. Everyone in the organisation has a role to play, but essentially the partnership consists of three main players – the student, the employer and the trainer. In the case of apprentices, there is an important often silent partner – the apprenticeship body in each State and Territory – which monitors that the training is being conducted within the training regulation framework.

The roles and needs of each within the partnership must centre on ensuring all parties commit to open communication throughout the training. Failure to communicate the wants or needs of one of the party will lead to failure in training. It goes without saying that the commitment to train an employee is costly in terms of finance and training hours.

Clearly defined key performance indicators (KPIs) must be installed and monitored from the first day of training. KPIs must be achievable and based on meeting training needs. KPIs can be easily monitored. The formal training plan contract sets out units of competency being delivered across the training period. Importantly, in the case of an apprenticeship, there is also a need for employers to sign off in support of the determination of competence by the training organisation.

It is really important therefore that employers know the level of skill and knowledge their student has and that they have completed the

requirements of each unit both in the classroom and in the workplace. Once this is ascertained, the determination of competence can be made.

Both the AGCSA (www.agcsa.com.au) and the Sports Turf Association (www.sportsturf.asn.au) websites have links to the industry-endorsed National Turf Industry Delivery and Assessment Standards for Certificate III in Sports Turf Management (Trade), Certificate IV and Diploma levels, which I strongly encourage all partners in training to have a working understanding of. Alternatively, Registered Training Organisations (TAFE) can provide this and specific information on training needs.

To assist employers in the sign-off process, some TAFE colleges have implemented digital/online workplace diaries (eg: Skills Tracker) where students list time spent doing workplace tasks which is then mapped against the learning outcomes of the curriculum. This workplace tool is maintained by the student during their training, with supervisors signing off each week that the record is a true account of their work. (As an aside, it is important that supervisors regularly log in and approve these entries so that the student's record of training is kept up to date). Reports can then be generated by all parties, including TAFE colleges, to determine whether the training needs are being met.

Critically we all want the same thing out of the time and investment in training. The key to success lies in open communication at all stages

Apprentice/Trainee's Name:			TCID:			Version No:			Date:		
Units of Competency			Formal Training Details			Assessment Details					
Unit Code	Unit Name	Unit Type	RPL, RCC, CT	Unit Training Start Date	Unit Training End Date	Training Mode	Responsibility for Training	Assessment Methods	Employer confirmation of competence (signature)	Date deemed competent	
ARCTRF301A	Construct turf playing surfaces	C		28/01/2019	16/11/2019	1	Emp <input type="checkbox"/> RTO 1 <input checked="" type="checkbox"/> RTO 2 <input type="checkbox"/>	Q WO P SA			
ARCTRF302A	Prepare and apply chemicals	E		27/02/2019	16/11/2019	1	Emp <input type="checkbox"/> RTO 1 <input checked="" type="checkbox"/> RTO 2 <input type="checkbox"/>	Q WO P SA			
ARCTRF303A	Install irrigation systems	C		06/03/2019	16/11/2019	1	Emp <input type="checkbox"/> RTO 1 <input checked="" type="checkbox"/> RTO 2 <input type="checkbox"/>	Q P SA			
ARCTRF304A	Implement a plant nutrition program	C		22/07/2019	16/11/2019	1	Emp <input type="checkbox"/> RTO 1 <input checked="" type="checkbox"/> RTO 2 <input type="checkbox"/>	Q P SA			
ARCTRF305A	Renovate sports turf	C		22/07/2019	16/11/2019	1	Emp <input type="checkbox"/> RTO 1 <input checked="" type="checkbox"/> RTO 2 <input type="checkbox"/>	Q WO P SA			

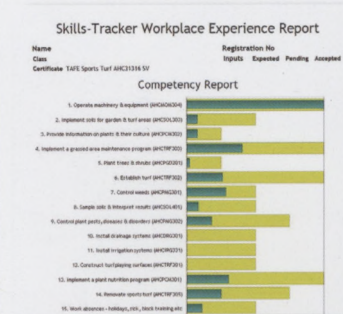
in the training partnership and understanding of curriculum, when units of competence will be delivered and a commitment to ensure students obtain regular exposure to all the skills of the trade.

To help facilitate this, the Australian turf industry is fortunate to have the National Turf Education Working Group (NTEWG) overseeing all facets of the sports turf management education pathway. The NTEWG meets twice a year and we are looking forward to hosting our first meeting of 2018 at the inaugural Australasian Turfgrass Conference in Wellington, New Zealand (24-29 June). If you have any concern in regard to turf management training, the NTEWG encourages you to contact your TAFE training provider in the first instance. The various state associations will also have representatives at the NTEWG meeting in NZ to address any concerns.

You can also contact Albert Sherry (albert.sherry@tafensw.edu.au) and (02) 4936 0215) or fellow NTEWG co-chair Hugh Gardner (hugh.gardner@iinet.net.au) or 0418 245 557).

Sample NSW training plan showing the requirement of employers in signing off in support of competence

Some TAFE colleges use online programmes such as Skills Tracker, where students list time spent doing workplace tasks which is then mapped against learning outcomes



CCI GOLF COURSE EQUIPMENT

SPECIAL OFFER

ORDER YOUR NEW TDR350 AND START MEASURING YOUR VMC, EC & TEMPERATURES TODAY.

Take up the introductory offer of **\$2195+gst** and receive a set of 1.5 Or 3" tines **FREE**

Offer Must End May 2018

Order now!!

NEED TO LOG YOUR DATA? Ask us about Spec Connect the newest platform in collating your Facilities data!

CCI COUNTRY CLUB INTERNATIONAL

info@countryclub.com.au | 1300 138 804
C O U N T R Y C L U B . C O M . A U



Thredbo Golf Course occupies an area of just over 30 hectares and is nestled in between the Thredbo River and spectacular Ramshead Mountain Range

Superintendent: Graham Bailey (55).

Family: Wife Andrea.

Social media: On Facebook.

Years as a superintendent: 14.

Association involvement: Thredbo Golf Course has been an AGCSA member for over a decade.

Turf management career: Thredbo Golf Course (1996-2001, 2010 to present).

Qualifications: Certificate III in Horticulture.

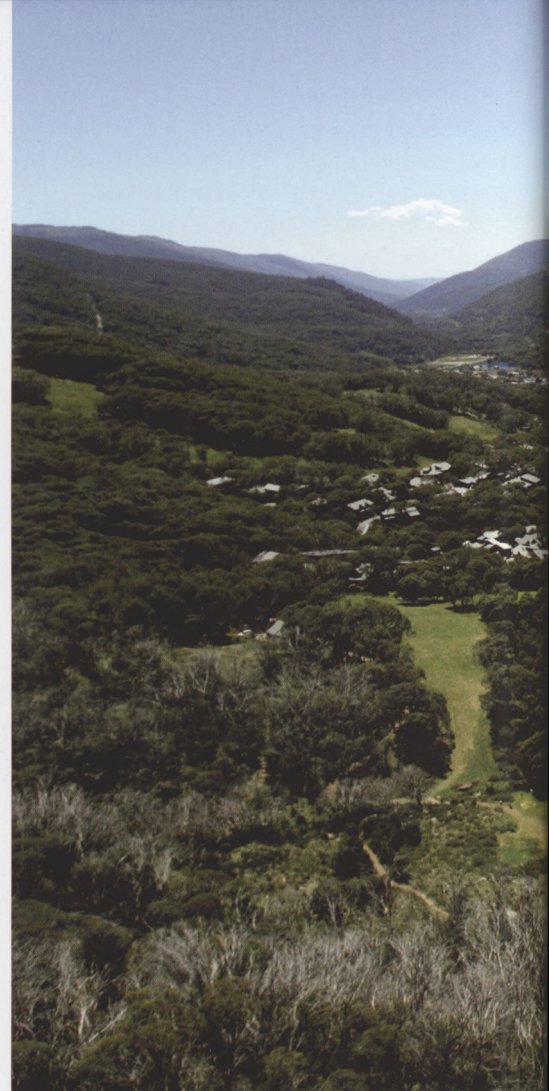
Major hobbies/past-times: Skiing, golf.

Where in Australia is Thredbo GC and what is the club/township famous/known for? The Thredbo nine-hole golf course is located immediately to the west of Thredbo Village, an all-season resort located in the iconic Kosciuszko National Park. The course is bounded by the Thredbo River to the south east and the spectacular Ramshead Mountain Range to the north west, offering outstanding playing conditions in fresh mountain air, with each hole offering a different spectacular view of the Thredbo Valley and the surrounding alpine peaks. At 1400m elevation, Thredbo is Australia's highest golf course. The lowest point on the course is the 1st tee at 1370m above sea level and highest is the 7th green at 1415m.

Thredbo Village itself operates in one of Australia's most beautiful and sensitive natural settings. The alpine and sub-alpine environments of Thredbo have international conservation significance and is home to a vibrant and diverse community. The village atmosphere and facilities attract year-round visitation and provides the social infrastructure which underpins all of our seasonal and year-round activities, primarily including the ski resort operation and, more recently, mountain biking.

Give us a bit about your background and how you came to be a superintendent. Back in the early 1990s I would help out then Thredbo greenkeeper Andy Griffith. When he retired from the course in 1996 I undertook a Certificate III greenkeeping trade certificate doing block release at Charlestown TAFE. Andy, along with Ben Nielson, were my early mentors and the key message I took from

The Thredbo Golf Course management team (from left) superintendent Graham Bailey (superintendent), Euan Diver, Ben Dutch and Dave Pastro



them was that Thredbo is a very different course to most others, with numerous unique challenges centred around the fact that it is located in an alpine environment and within a National Park.

What do you like most about being the superintendent at Thredbo GC? Being left to run the maintenance of the course and the results of improvements to the course over time, such as irrigation upgrades from quick coupling manual watering to an automated system.

Obviously Thredbo is very much an alpine playground. Where does the golf course fit into the leisure activities that the township has to offer? Are you solely on the golf course or do you have other roles there? I am on the golf course in summer and supervise the parks and gardens throughout the village as well. During the winter months I am the supervisor of the village courtesy bus operation that runs a fleet of 14 buses transporting guests around the village 18 hours a day, seven days a week.

The golf course is used for disc golf in winter, the idea being that we cannot play golf on the course as it is invariably covered in snow or simply just too wet, so we provide the opportunity to play disc golf in the snow. We also offer disc golf in summer at the Friday Flat beginner ski area, simply re-locating the baskets from the golf course to Friday Flat and

Thredbo GC, NSW

Thredbo in the Snowy Mountains is one of Australia's premier alpine destinations. As Graham Bailey outlines, it's also home to a nine-hole golf course boasting some of the most spectacular vistas in the country.



As part of the many leisure activities offered at Thredbo, the golf course is used as a disc golf course during the winter months

then back for winter. While located wholly within the existing golf course footprint, the disc golf course uses its own unique set of tees and baskets, the layout of which was designed by the team at DiscGolfPark.

Give us an overview of Thredbo GC and some of its unique characteristics from a course perspective? Thredbo Golf Course is located at the western end of Thredbo Village and occupies an area of just over 30 hectares. Strategically routed around the lower mountain slopes of Ramshead Range, the lower four fairways run virtually parallel and immediately above the tranquil waters of the Thredbo River. The nine fairways cover an area of approximately 27ha. All fairways are separated by roughs having varying densities of natural trees, mostly Eucalyptus species.

Subsequent expansion to Thredbo Village around 1996 resulted in the par five 9th fairway being re-routed so additional accommodation could be developed on the course's northern boundary. The course comprises one par five, three par four and five par three fairways, having a total length of 1978 metres from the rear tees. The course has 17 sand bunkers and there is one small fairway water hazard on the lower side of the second fairway above the river. Two small creeks flow across the course emanating from the higher slopes of Ramshead Range and join into the Thredbo River.

What are some of the unique features about Thredbo GC from a turf management perspective?

The native animals certainly add their own unique challenges. While we get the odd wallaby grazing the course, more of an issue are the numerous wombats that call the course home. We have had to raise the tee markers up by six inches as they like to leave their calling card on any raised object then dig holes as they try to cover them!

Several years ago we re-constructed the bunker on the rear of the 6th green to improve play, only to come back the next day and discover that we had obviously interrupted the nocturnal pathway of a local wombat who had proceeded to spend all night

Thredbo's fairways and tees are a mix of perennial ryegrass and creeping red fescue. Pictured is the 1st





Renovations at Thredbo are carried out when the course dries out in October or November each year, depending on the amount of snow and period of time that the course was covered during winter. Pictured is the 9th green and fairway

Due to wombats leaving their calling card on any raised objects and then digging holes to try and cover them, Thredbo's tee markers are set off the ground by six inches



undoing all our work! In more recent times we have been impacted by a burgeoning deer population in the National Park. Their narrow hooves impact significantly on the greens and tees and provide a challenge to keep the playing surfaces level.

Another significant challenge is the local population of 'little raven' who in spring enjoy tearing the turf apart looking for worms. It is not uncommon to come into work on any given morning to discover the ravens have literally torn apart a 30 square metre section of fairway or surrounds.

Due to the alpine climate, what special considerations do you have to incorporate into the management of the course during the colder months?

The course is closed from the first decent snowfall and re-opens as it dries out. This generally means it is closed from late May through early October, however, it has been known to remain open until the end of June if we are having a dry spell and also re-open in mid-September if we have a rapid end to the ski season. As part of the resort's activity offering, we try and make it available when ever prevailing conditions are suitable, however, once we are skiing no-one is interested in golf!

During the spring and autumn months, we have to advise golfers to keep off the frosty and frozen

turf as it leaves black marks where they have walked, killing the turf. This means that in the periods closer to winter when we are still operating the course we sometimes do not open until after 10am once the frost has melted. Also, immediately post-winter we often have to shovel off any of the areas in the shade where snow may have persisted to reduce the possibility of winter fusarium.

In the past we have experimented using straw mulch to cover the three greens that spend the majority of winter in the shade to try and prevent the snow impacting them too much. This, however, created its own issues and we don't do it anymore.

No winter works are undertaken on the course, although on occasion we are required to remove timber collateral that sometimes appears on the 7th green. This appears courtesy of the local teenage snowboarders who set up some jumps and 'rails' (pieces of timber that they slide down on their snowboards). The challenge is that when the snow is only a few centimetres thick they can still ride the snow, but they break through it quickly and can damage the turf underneath.

Is it an easy/hard facility to manage? What's the most challenging aspect?

The most challenging aspect is dealing with the wombats, deer and raven damage, however the mountainous nature of the course is tough on the mower and plant fleet. All mowers, with the exception of the greens units, are All Wheel Drive. We cannot allow standard carts on the course as they experience difficulty getting from the lower to higher sections of the course.

Take us through your turf management operations there. What changes have you made over time?

When I started on the course it had a manual quick coupling irrigation system which was very time-consuming and didn't provide very even coverage. We upgraded the tees, greens and fairways to automatic pop up rotors over an 11-year period (2000-2010) which has made a huge difference to the presentation of the course.

What other maintenance changes are you wanting to introduce/planning on introducing in the coming years?

I would like to continue working on levelling out the tees to make mowing more efficient. Being located in an alpine area, we often have strong winds that result in a lot of branches and leaves on the fairways, tees and greens. I'd like to purchase a debris blower to help me more efficiently manage them before mowing.

As the trees surrounding the fairways have grown over the years, the fairways have become more closed in and tighter to play, to the point that some significant pruning of branches along most tees and fairways is needed. Being located in the National Park, this presents its own challenges as we have to seek the approval of the National Parks and Wildlife Service.

Any special environmental considerations that you have to incorporate into the management of the course? The Thredbo operation has an Environmental Management System (EMS) in place for the entire resort operation, including the golf course. Under the EMS we recognise that the golf course operates in the unique position within a National Park and therefore greater scrutiny is placed on the use of pesticides and fertilisers. A 'minimalistic' approach is taken, particularly on the sections of the course located closer to waterways.

What are some of the major challenges facing Thredbo GC both from a turf management and general club management perspective? Thredbo visitation and therefore that of the golf course is very seasonal and largely dependent on holiday periods. Being a summer-only operation and with a small local population, the course is quiet during the week when there can be days where no-one plays the course and then comparatively busy during holiday periods.

Water is obviously a critical issue for any golf course. How is Thredbo GC faring in the water management stakes? Thredbo is in the fairly unique circumstance that being located in an alpine region, our water supply is fairly consistent due to snow melt from the mountain. While we often experience dry periods through January and February, the flow

in the Thredbo River remains relatively consistent, allowing us to continue irrigating at responsible levels. For example, when the river levels lower, we set the sprinklers to 20 minutes 'on' and 10 minutes 'off' then 20 minutes 'on' for each cycle, instead of the normal operating period of 40 minutes. While using the same volume of water, this reduces the demand at any particular time.

The weather and climate is always a great leveller for a course superintendent. How does Mother Nature treated the course? In Spring, we occasionally get the combination of a snow melt with a large rainfall event (>100mm in 24 hours) that has caused some flooding on our second fairway. This results in river sand, rocks and tree branches being deposited on the course.

The one product I couldn't manage the course without is... Impede granular insecticide. We get an invasion off cut worms most years with the migration of the Bogong moth to the Snowy Mountains each year.

Are expectations of course presentation and conditioning any less than that placed on your metropolitan counterparts? Probably a bit less, but with our water being fairly guaranteed our course is in the best condition of all the courses in the local area.



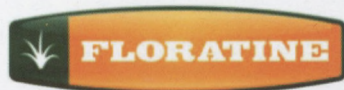
Due to its location within Kosciuszko National Park, greater scrutiny is placed on the use of pesticides and fertilisers

TURFCARE AUSTRALIA are Importers and Suppliers of quality Turf care products and services to the **Sports Turf Industries** both Nationally and Internationally and is proudly 100% Australian Owned

ECO
BUNKER
build it once



AICL



Aquatrols®

syngenta®



TURFCARE AUSTRALIA

www.turfcareaustralia.com.au Phone: 02 9684 6611 Fax: 02 9684 6633 sales@turfcareaus.com.au

Do you have to be more resourceful as a regional superintendent? As our machinery has been upgraded over the last 10 years, it has made it quicker and more efficient to get the course cut.

If you could change one thing about your job what would it be and why? A permanent helper or apprentice would allow irrigation and drainage jobs and more frequent bunker maintenance to be done.

What have you got in your shed and what's your favourite piece of equipment?

- Toro 5510 fairway mower (all-wheel drive)
- Toro 3100D surrounds with Sidewinder (AWD)
- Toro 3250D Greensmaster
- Toro Greensmaster 1000 greens mower

- Iseki 72 out-front rough mower (AWD)
- Kubota RTV 900 (AWD)

The Toro 5510 fairway mower is great – it's light, saves time, is reliable and does a good job. A Toro Pro Force debris blower is high on the wish list as we have frequent strong winds and spend a lot of time raking and cleaning up prior to cutting.

What gives you the most job satisfaction? Seeing the course all cut, bunkers raked and in great condition in spring when everything is bright green.

ACKNOWLEDGEMENTS

ATM wishes to thank Thredbo's environmental services manager Euan Diver for his assistance in compiling this edition's Regional Profile. 🌱

AT A GLANCE – THREDBO GOLF COURSE, NSW



The Thredbo greens are Pennncross bentgrass and wintergrass in early and late season

Course specs: Thredbo Golf Course occupies an area of just over 30 hectares. Fairway and tees are a mix of perennial ryegrass and creeping red fescue and greens are Pennncross bentgrass and wintergrass in early and late season.

Fairway	Mown Length m	Average Width m	Area m ²
1	278	30	8340
2	56	15	840
3	270	20	5400
4	52	15	780
5	125	20	2500
6	25	15	375
7	160	22	3520
8	24	16	384
9	214	22	4708
Total			26,847

Members/rounds: 52. The course forms part of the overall resort operation and green fees are included in the 'Resort Pass' that allows guests to access all the other activities available in the resort, including tennis, chairlift rides and the alpine bobsled. So, the actual number of rounds played can only be estimated, however, based on historical numbers it sits at approximately 2500.

Major events: Thredbo Club Championships.

Annual course management budget: \$120,000.

Staff structure: Euan Diver (environmental services manager), Ben Dutch (environmental services assistant manager), Graham Bailey (greenkeeper/supervisor) and Dave Pastro (greens assistant/village supervisor).

Climate: During summer, the mean maximum temperature ranges between a mild 19-21°C with a mean minimum temperature ranging between 5-7°C. Throughout the winter months, the mean maximum temperature only ranges between 5-6°C whilst the mean minimum temperature drops to between minus 2.4°C and minus 3.7°C. Thredbo's annual average rainfall is 1700mm.

Soil types: Decomposed granite and river deposited sediment.

Water sources and irrigation: Thredbo River, pumped to a storage reservoir located above the golf course. Greens and tees have Hunter I31s and fairways are Rain Bird 6504 Falcons with Hunter node controllers.

Cutting heights/regimes: Greens are cut three times a week (Monday, Wednesday and Friday) at 4-5mm; fairways are cut on Monday and Thursday at 25mm; tees and surrounds are cut on Tuesday and Friday at 25mm.

Renovations: Renovations are carried out when the course dries out in October or November each year, depending on the amount of snow and period of time that the course was covered during winter. Greens are scarified in two directions in house and we contract out the vertidrainage, coring and topdressing to a local contractor who services courses in the region. Adding Reno-blend fertiliser lime and granular wetting agent is undertaken depending on soil sample results.

Major disease pressures and how you combat them: Of the fungal diseases, dollar spot occurs sporadically during the summer months and fusarium patch occurs after October or November. In Thredbo we apply all pesticides on a curative basis on the putting greens against insects and disease; winter fusarium is treated with Headway Maxx or Daconil Weatherstik. While a rare occurrence, if we experience a significant outbreak of dollar spot, it is treated with the same fungicides.

Nutrition management: The greens are fertilised at renovation with Maxwell & Kemp's premium renovation blend and around every three months with Momentum GT greens grade mini prill or equivalent Maxwell & Kemp premium greens fertiliser. We also use an organic liquid fertiliser around twice a summer. As the course is wholly located in the Kosciuszko National Park, application of fertilisers is kept to a minimum to reduce any potential impacts on the water courses.



AUSTRALASIAN TURFGRASS CONFERENCE & TRADE EXHIBITION

TSB Arena, Wellington, NZ
24-29 June 2018

Programme includes:

- Weed Management
- Rethinking Mental Health
- Career Planning
- Project Management
- Professional Development

Highlights:

- Golf Championships
- Conference Dinner
- Educational Seminars
- International Guest Speakers
- 50+ Exhibitors

For details and to register: www.atc2018.com

Members: \$999 (NZD)

Non-Members: \$1250 (NZD)



**Business
Events
Wellington**
WellingtonNZ.com



WELLINGTON CABLE CAR - IAN TRAFFORD



WELLINGTON HARBOUR - JULIAN APSE



TORO GOES SUPERSIZE WITH UNVEILING OF NEW OUTCROSS 9060

Toro's new Outcross 9060 combines the benefits of both a tractor and a super-duty utility vehicle, while at the same time being turf-friendly

Launched at the recent Golf Industry Show in San Antonio, AGCSA Platinum Partner Toro has added what is without doubt one of the more interesting pieces of turf machinery to its range of equipment.

A versatile, powerful and productive addition to any maintenance operation, the Toro Outcross 9060 is a revolutionary, turf-friendly machine that delivers on the benefits of both a tractor and a super-duty utility vehicle.

In contrast to many traditional compact tractors, the Outcross 9060 is turf-friendly thanks to a weight-balanced chassis and four-wheel steering, coupled with full-time four-wheel drive. All four wheels turn individually at a rate determined by the machine's ground speed and turning angle, ultimately minimising the possibility of turf damage and allowing the machine to traverse various terrain with ease.

Superintendents and turf managers can also pre-programme attachment parameters, reducing the possibility of operator error. The Outcross incorporates a standard three-point hitch with PTO, drawbar and universal loader mounting plate, enabling the machine to accommodate a variety of standard turf maintenance attachments. This includes, but is not limited to, loader buckets, forks, pull-behind rotary mowers, fertiliser spreaders and aerators. Additionally, the controls of the new Outcross 9060 are simple and intuitive, allowing operators of all skill levels and experience to expertly accomplish a variety of tasks.

The Outcross also features a passenger seat and roomy operator station for easily transporting people, as well as an optional cargo bed with

a 2041 kilogram, one cubic metre capacity for hauling tools and materials. Capable of towing up to 7.25 tons and powered by a 59.8hp (44kW) Yanmar liquid-cooled diesel engine, the Outcross is as powerful as it is versatile.

"From the very beginning of the development of the new Outcross 9060, we focused on what matters most to superintendents and turf managers, which all centres around doing more with less," says Toro's global product manager Noah Wahl. "This includes simplifying operation, optimising power and uptime and integrating dozens of attachments to perform virtually hundreds of tasks, all while focusing on being extremely turf-friendly."

To enhance efficiency and productivity, intuitive one-action controls, a utility bed and cruise control come standard on the Outcross 9060. Available as an option is an all-season, climate-controlled safety cab to protect the operator from weather, insects and debris.

Scheduled to be ready later in 2018, the Toro Groundsmaster 1337 pull-behind rotary mower includes three contour-following cutting decks, each equipped with dual full rollers for unparalleled after-cut appearance. The 12-foot (3.66 metre) width of cut, paired with simple height of cut adjustment from 1.3cm to 10.1cm, offers outstanding productivity and versatility. This new unit is the ideal piece of equipment to complement the Outcross 9060 and is also compatible with many other tractor makes and models.

For more information on the Toro Outcross 9060 and how it can benefit your operations, contact your local Toro representative or visit www.toro.com.au.

ORNAMENTAL REGISTRATION FOR DEDICATE FUNGICIDE

AGCSA Silver Partner Bayer announced in mid-February that its fungicide Dedicate had received registration approval for use on ornamentals, as well as turf. The newly registered name is Dedicate Turf and Ornamental Fungicide and in addition an extension to the label to vary application water rates to allow for application at lower volumes when targeting foliar disease infection in turf has also been approved.

"Since its launch in 2009, Dedicate has become renowned for its reliable and effective broad spectrum disease control, as well as its safety on intensively managed turf such as golf greens and bowling greens," says Bayer turf market manager James Royal. "In 2011, Bayer invested in trials to secure a label claim for spring dead spot control, taking the total number of turf diseases controlled to 10. The recent addition of eight ornamental disease control claims and improved spray volume guidance for turf, reinforces Dedicate as one of the most versatile and user-friendly products available to turf managers.

"Replicated trials carried out with the Dedicate formulation have shown that once the spray application of Dedicate has dried on the leaf surface, rainfall will not interfere with its ability to control disease, due to unique formulation properties and the combined contact action and systemic properties of the active ingredients."

Dedicate can be used now for ornamental plants and trees, in addition to its uses for turf. Labelled diseases for ornamental use include azalea petal blight, myrtle rust, white rust, rust and powdery mildews. Dedicate continues to be available in a one litre pack through Bayer's national network of turf agents. Until product with updated labels becomes available through the company's agency network, the new label extension can be found at www.environmentalscience.bayer.com.au/Turf-Management/Products/Dedicate.

JACOBSEN LAUNCHES NEW GA SERIES AERATORS

AGCSA Gold Partner Textron Golf is launching new models of its Jacobsen GA Aerator Series. The GA450 and GA580 aerators will join the GA600, released last year, to create an extensive line of tractor mounted aerators, with each model having a specific width and working depth that can be used in a multitude of applications on the course.

Each model features Jacobsen's PerfectStrike technology, which delivers unrivalled hole quality and increased productivity when equipped with the optional AerStrike tine attachment system. The PerfectStrike patented design ensures tines enter and exit the turf vertically and from an optimal height. Its precise movement creates a straight and more perfectly round hole, providing uniform aeration with minimal damage to the rootzone.

"With the addition of the GA450 and GA580, we provide the industry's most comprehensive line of aerators, all featuring PerfectStrike technology which delivers superior hole quality while maintaining turf quality," says company vice-president Michael Parkhurst.

Each GA series aerator can be equipped with an AerStrike attachment system that delivers up to 70 per cent heightened productivity. Created for optimal spacing with a diamond pattern, the system enables single-pass aeration, reducing operation time and elevating turf conditions. Additionally, the GA series features a rear-mount roller location, with superior ground-following capability and a design that allows for quick, simple adjustment of aeration and easier maintenance.

Features of the GA450 include;

- Ideal for greens and manicured green spaces;
- Spring dampening tine arm motion delivers superior quality;
- Lightweight design allows quick and efficient aeration.

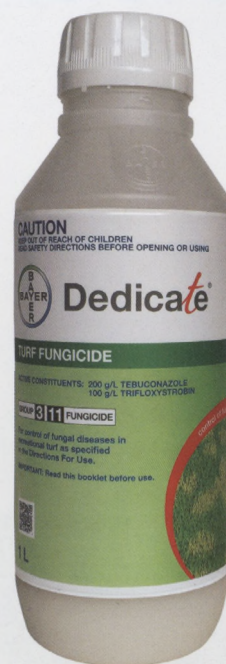
Features of the GA580 include;

- Aerate fairways up to 8" deep at industry-leading speeds;
- Capable of intermediate depth aeration on fairways;
- Designed for ease of operation and maintenance;
- Single-tool depth adjustments to achieve perfect aeration depth.

The new GA models join the GA600 in Jacobsen's line of GA Series Aerators which was unveiled at the 2017 Golf Industry Show. The GA600, when equipped with the AerStrike 4-tine attachment system, operates as the industry's only aerator that performs deep aeration in a single pass (see Around the Trade section in ATM Vol 19.6 for more on the GA600).

GREENMAKERS MERGES WITH SUPER GARDENS

Melbourne-based golf course and sportsfield



Bayer's Dedicate fungicide is now registered for ornamental use

The GA580 is one of two new aerator models recently released by Jacobsen



Greenmakers announced its merger with Super Gardens at the start of March



maintenance company Greenmakers is set to merge with Super Gardens effective from 1 April 2018. Greenmakers head David Cole confirmed the arrangement in early March which will see Super Gardens establish a sports turf and leisure division, complementing its existing grounds management and landscape construction services.

Says Super Gardens director Ian Griffiths: "We are delighted to welcome all the Greenmakers staff to the Super Gardens team. The combining of resources will further strengthen our position within the growing sports and leisure grounds markets."

"For clients, the merger between Greenmakers and Super Gardens adds to our extensive range of horticulture services and brings another level of expertise and experience to the business. For our staff, the merger creates many new opportunities for career advancement and additional apprenticeships in sports turf management and other areas within Super Gardens."

TORO ADDS PERROT

Toro announced in February that it has added Perrot Sprinklers to its irrigation product portfolio. Covering applications across the agricultural, sports turf and golf markets, Perrot sprinklers offer Toro

customers an expanded range of professional irrigation solutions.

German company Regnerbau Calw GmbH, a privately held manufacturer of professional irrigation equipment, was acquired by The Toro Company in 2017. The company manufactures a variety of irrigation products under the Perrot brand including piston drive pop up sprinklers, impacts in canister, big guns and travelling irrigators for a variety of applications across sports fields, agriculture, dust suppression and professional turf. The long-distance radius and fast rotation of Perrot's sports field sprinklers make them an ideal choice for maintaining both natural and synthetic turf on soccer, tennis, hockey, golf and equine venues.

"The addition of the Perrot portfolio helps expand Toro's presence in the sports field and agricultural industries, while also growing our position in adjacencies to our core businesses," says Toro president and CEO Rick Olson. "This acquisition is consistent with our strategy to grow in the professional, water and global markets, and provides an expanded offering of professional irrigation solutions to better serve our customers."

Perrot's long range sprinklers provide additional irrigation solutions for the professional turf market.

INDUSTRY APPOINTMENTS



HOLMES' NEW HOME

Environmental and compliance service provider epar has added **Matt Holmes** as its new state manager for Queensland and Western Australia. Holmes, who joined the company the second week of February, takes over from **Brendan Clark** who left to take on the role of course superintendent at Atherton Golf Club in Far North Queensland.

Epar managing director **Terry Muir** says Holmes was chosen in a competitive selection process from a strong field of candidates: "Matt is a highly impressive talent known for his collaborative and professional style. I am personally delighted to have him in team epar and I am excited by his approach to compliance that actually gets people thinking and executing correctly when it really counts."

Holmes, who arrived at epar after a period with Syngenta, is excited about the potential his new role has: "I am honoured and excited to have been selected to work with epar's Queensland and Western Australian customers. Epar is a business I have admired from a distance for 10 years and I am proud and excited to be a part of a company that has a great culture, the broadest capability in the market and a winning strategy that will enable us to grow strongly."

"Building further on the company's success is a challenge I accept with

confidence, determination and fierce ambition for the firm and I am passionately committed to placing our clients at the absolute centre of everything we do." **Holmes can be contacted on 0404 996 315 or matt@epar.com.au**

CCI NETS COVENTRY

AGCSA Bronze Partner Country Club International (CCI) has appointed **Lance Coventry** to the role of Queensland/NT sales representative. Coventry brings many years of turf industry experience to the role including being a former course superintendent at Robina Woods Golf Course on the Gold Coast. Lance's previous experience in the safety netting and sales areas will be useful in his new role with CCI. Coventry can be contacted on 0409 611 580 or email lance@countryclub.com.au.

NEW OFFICE, NEW FACES FOR SPORTEng

Melbourne-based field of play consulting engineers, SportEng has opened up a second office in Brisbane. The northern location will be led by newly appointed **Marke Jennings-Temple**. The Fortitude Valley office will strengthen SportEng's presence in Queensland and extend its reach into New South Wales. It will also provide a launching pad into the Asian and New Zealand markets.



Jennings-Temple (pictured) brings a wealth of experience in all aspects of natural and synthetic turf projects including policy, strategy, design, construction and maintenance. His extensive knowledge relating to playing quality of sports surfaces has seen him work in numerous countries, including England, New Zealand, Australia, Brazil, China, Korea, Papua New Guinea and Canada. These projects have ranged from school and council fields, to training and match venues for domestic tournaments, World Cups and the Olympics.



Transformation has been in the works for a while with the appointment also of **Dean Holden** (pictured) as SportEng general manager in January.

Staff numbers have grown to 15

which is a significant cry from when Jarrod Hill and Gray Canning started the business in 2014. Holden brings many years of knowledge and skills in construction and maintenance projects. Specialising in project management and with a background in managing turf construction and maintenance, Holden's proficiencies enable him to understand client needs regarding budgets and resources to ensure a successful result is met on each project. For more information, visit www.sporteng.com.au.

From the impact drive pop-ups to the big guns, Perrot sprinklers can cover distances from 12m to 69m. At its peak, the VP3 piston drive pop up sprinkler is capable of reaching a throw of 54m, meaning it can safely span the entire width of a hockey pitch or soccer field from outside the playing surface. It is also the only long range sprinkler approved by the International Hockey Federation.

AUSTRALIAN OHIO PROGRAM INTERNS GATHER AT GIS

AGCSA Gold Partner Syngenta was again proud to sponsor Ohio State University delegates who all met up during the recent Golf Industry Show and GCSAA Conference in San Antonio.

Among the Australian and New Zealand contingent that met up during the GIS was 2017 AGCSA Graduate of the Year Award winner Joel Manson (Anglesea Golf Club, Vic) who is currently interning at Muirfield Village in Ohio. He was joined by Callen Boulton and Brad Foster (both Los Angeles CC), Hayden Callinan and Mitch Jowett (both Sea Pines – Harbour Town), Josh Forster and Angus Vos (both Bay Hill), Brad Leathard and Keegan Mead (both TPC Sawgrass), Ryan Newport and Ryan Thompson (both Austin CC), Brook Murphy (Sea Pines – Atlantic Dunes) and Jake Tobin (Quail Hollow).

The Ohio Program director Mike O'Keeffe says Australian and New Zealand greenkeepers are very

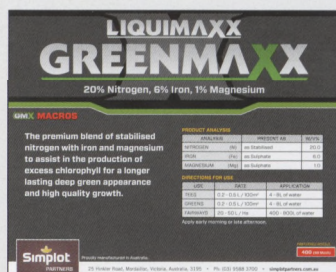
well received in the USA and he is always on the lookout for more up and coming turf managers from Down Under to join the programme. O'Keeffe says Australian and New Zealand greenkeepers excel as a result of their skill levels and work ethic.

Syngenta's business manager for turf and landscape ANZ, Paul Jackson, says the company is looking forward to bringing past graduates together again at an alumni function to be held during the Australasian Turfgrass Conference in Wellington, NZ this June. If you are a past graduate of The Ohio Program and would like to meet up with other graduates at the Wellington conference, email greencast.au@syngenta.com so you can receive an invitation. 🌱

Ohio Program graduates, including many current Australian interns, gathered at the recent GIS in San Antonio

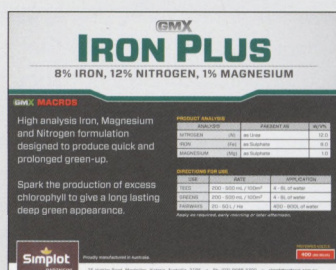


'TIS THE SEASON.



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



GCSAQ

Golf Course
Superintendents
Association of Queensland

Hervey Bay GC suffered localised flooding after heavy rains in February and March

After such a long dry spell in Queensland, the heavens certainly opened up in February and the start of March with soaking rains falling all way from Cairns in the north to Coolangatta in the south. The rain caused localised flooding at some courses, which is no surprise when you look at some of the following figures (March figures are to the 12th):

- **Bundaberg GC:** 350mm Feb and 15mm Mar;
- **The Glades:** 277mm Feb and 22mm Mar;
- **Brisbane GC:** 230mm Feb and 50mm Mar;
- **Hervey Bay GC:** 305mm Feb and 44mm Mar;
- **Atherton GC:** 700mm Feb and Mar.

By the time this edition of ATM hits the streets, the Queensland golf industry will have held its annual awards night at Star Gold Coast on Tuesday 20 March. Comprising the PGA of Australia (QLD/NT), Golf Queensland, the GCSAQ and Golf Managers' Association, the awards nights acknowledges the achievements the finalists have accomplished throughout 2017. Having all areas of the industry represented by the governing bodies, the night is

truly an event that is dedicated to the personalities that are involved in the industry.

With a large number of nominations received for each award, it was encouraging to see so many individuals recognised for their tireless efforts in assisting growing the profile of the turf industry and the professionals that work in the state of Queensland. We will write more about the winners in the next edition, but congratulations go to the following finalists:

GCSAQ Superintendents Achievement Award

- Danny Foott (Hope Island Golf Links)
- Col Thorsborne (Parkwood GC)
- Glenn Gibson-Smith (The Glades GC)

GCSAQ Assistants Recognition Award

- Garry McClymont (Twin Waters GC)
- Brad Beetson (Headland GC)

GCSAQ Turf Apprentice of the Year

- Jonah Clancy (St Lucia Golf Links)
- Samuel Thomson (Victoria Park GC)
- Steven Lewis (Chinderah GC)

GCSAQ Environmental Excellence Award

- Jason Lavender (Riverlakes GC)
- Rodney Cook (The Grand GC)

GCSAQ Industry Recognition Award

- Peter Lonergan (Coolangatta & Tweed Heads)
- Darryl Edwards (Gold Coast Burleigh GC)

Finally, it was great to see Tourism and Events Queensland and the City of Gold Coast recently announce their commitment to support the Australian PGA Championship for a further three years. The 2018 Australian PGA Championship will be played from 29 November to 2 December 2018 at RACV Royal Pines Resort (superintendent **Lincoln Coombes**).

PAUL MCLEAN
PRESIDENT, GCSAQ

SAGCSA



It has been an unusual period here in South Australia over the past few months with a number of highs and lows. The highs included superintendent **Richard James** having Kooyonga Golf Club in pristine condition for the 2018 ISPS Handa Women's Australian Open. For the third year in a row the tournament drew big crowds, great weather and amazing turf surfaces, making for another successful event. A large group of volunteers from SA and Victoria helped out with course preparations and did a fantastic job.

Unfortunately, that was offset by the shock passing of **Alan Reid** just a few weeks later. Alan was superintendent at North Adelaide Golf Links and passed away suddenly on Wednesday 28 February while out running. Alan had been at the club since the early 2000s and oversaw 54 holes

of public access golf and did a great job with the resources that he had. On behalf of the SAGCSA committee, our thoughts go out to Alan's family.

January and February has seen little to no rain here in SA and combined with higher than average temperatures it has made for a difficult period. Some clubs are starting to restrict their watering to tees and greens, with the long range forecast not providing much relief.

The first SAGCSA meeting will be held at Murray Bridge Golf Club on 22 March. Long-serving course superintendent **Mal Grundy** will be hosting a 'walk 'n' talk' as well as doing a presentation on his recent tournament experiences.

NATHAN BENNETT
PRESIDENT, SAGCSA



Greetings to all from Aotearoa, New Zealand, the 'land of the long white cloud'. I hope this finds everyone coping with things after extremely difficult and challenging spring and summer seasons over here. Mother Nature can be cruel at times and over much of the past six months she has thrown everything at us in all parts of New Zealand.

In mid-November the heavenly taps suddenly turned off ending a very wet previous 18 months. And just six weeks later many areas had reverted to 'end of summer equivalent conditions' with loss of turfgrass universal across golf courses. Drought was soon declared throughout many parts of the country.

Despite New Zealand being reasonably small geographically, we can have extremes between provinces (states) and within the North and South Islands. Despite western areas being in drought, the northern areas of the country, including the Auckland region, experienced intense rainfalls with precipitation well above the average.

As we all know, the combination of rainfall and warm humid conditions creates a greenkeeper's nightmare with turf disease becoming rampant. Our trade product suppliers in those areas, concerned with non-moving stocks of wetting agent, were suddenly happy again as truckloads of fungicides were being sent out to golf courses to help with the battle.

Spare a thought for fellow NZGCSA board member **Brendon O'Hara** at the coastal Nelson Golf Club at the top of the South Island. Annual rainfall is around the 900mm mark and already as at early March he has endured nearly 500mm for the year. Throw into the equation a couple of passing cyclones and the storms and high seas have ravaged the course. Sea water flowed over sea walls causing salt burn to much of the turf, while three of the coastal holes suffered erosion. The worst was a 90-metre long stretch that has taken up to six metres out of the 14th tee (see photo above).

If that wasn't enough, Brendon had to contend with a severe outbreak of dollar spot, a disease which he has seldom seen at the course in his 12 years there! Forever the optimist Brendon says, 'At least I haven't had melting out yet that everyone seems to have!' While Brendon has had major savings with limited use of irrigation this season, this has been offset with increased costs of fuel and maintenance because of the increased grass growth. It's a waiting game now for the surfaces to dry out sufficiently so that some much needed renovation and repair can commence.

Melting out is at record levels throughout the country as a result of the warm humid nights and heat wave a few weeks back. Most areas haven't been spared and the damage is widespread.

And just to confirm everyone's suspicions, it was announced in early February that NZ had just experienced its hottest summer on record.

It is timely to reiterate that when we are dealing with the might of the weather and Mother Nature we can't always win, despite our best efforts. It's important that we all talk about the issues we may have with our peers, as they are the people who have a real understanding of the challenges we face.

An all too common theme heard throughout the country is that our golf club committees and boards don't always show that same level of empathy and understanding and expect our surfaces to be at their very best the whole year round, regardless of the influences of the weather. It is important to support each other and accept that this is a season that most will want to put behind them and move forward. And it's not just the smaller budget and smaller staffed golf courses that have been hammered, it's also the more resourced courses that have suffered. So to all, chin up and if you're feeling down about your patch, give a mate a ring and get it off your chest. Don't blame yourself, as Mother Nature's power will always have the last say.

Congratulations to **Andre Arthur, Sam Davis, Yannick Weber** and **Ben Finn** whose efforts to date have enabled them to be chosen to represent NZ at the 2018 AGCSA Future Turf Managers' Initiative in Melbourne. This fantastic opportunity is made possible by Textron Golf and we are extremely grateful for their continued support of the industry.

Judging is also underway for both the NZGCSA Environment Award, supported by PGG Wrightson Turf, and the NZGCSA Parkland Excellence Award, sponsored by Parkland Products. Again we have received strong applications and the winners will be announced at the inaugural 2018 Australasian Turfgrass Conference. Our thanks to both these major sponsors for supporting these two awards and for their continued support of the industry.

The 2018 Australasian Turfgrass Conference is fast approaching and promises to be a fantastic conference for upskilling knowledge, networking and cementing friendships. So if you haven't already, get your registration completed and we'll catch up with you in Wellington. Until then, let's put this spring and summer behind us, move forward positively and look after each other. See you in Wellington!

STEVE HODSON
PRESIDENT, NZGCSA



AUSTRALASIAN TURFGRASS
CONFERENCE & TRADE EXHIBITION



Storms and high seas caused significant erosion and turf damage at Nelson Golf Club this past summer. Pictured is a section of the 14th tee that was washed away

ON THE MOVE



BRENTON CLARK:

From groundstaff Box Hill Golf Club, Vic to assistant superintendent Blackwood Golf Club, SA.

STUART GRAHAM: From superintendent Settlers Run Golf & Country Club, Vic to superintendent Riverside Oaks Golf Club, NSW.

TODD MCNAMEE: From superintendent Coral Cove Golf Club, Qld to superintendent Cooroy Golf Club, Qld.

RHETT PINDER: From assistant superintendent to superintendent Club Mandalay, Vic.



CLINT RAVEN:

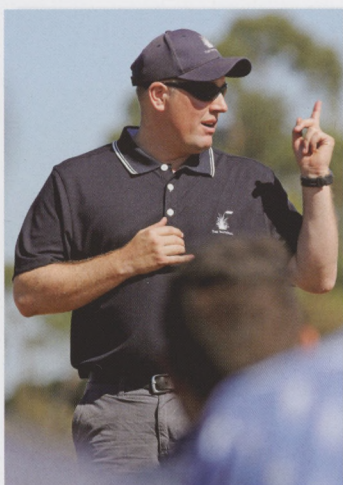
From superintendent Heidelberg Golf Club, Vic to superintendent Yarra Yarra Golf Club, Vic.

DARYL SELLAR: Resigned as superintendent Glenelg Golf Club, SA after 18 years to take on a new role with Living Turf.

TOM SMITH: From turf manager Singapore National Stadium, Singapore to assistant arena manager Optus Stadium, WA.



VGCSA members tour The National Golf Club's Long Island course at the March education meeting



Long Island superintendent Simon Page

Page discusses the changes to greens management practices that have been instituted at Long Island



The association's first education meeting of 2018 has been held with a good turnout enjoying the dual club course walk meeting at Frankston Golf Club and The National's Long Island course. Both clubs were presented in outstanding fashion which is a credit to their operations with the extended dry weather conditions Victoria has been facing over summer.

Frankston superintendent **Dean Hadfield** and assistant **Travis Stillman** kicked the day off with a tour of one of the more unique golf courses in Melbourne. The nine-hole layout boasts a fascinating history which extends all the way back to the early 1900s, coupled with a minimalist maintenance regime which Hadfield enlightened the group on.

Frankston boasts some of the best examples of native flora and fauna in Melbourne, which harks back to a 1917 'vegetation census' the club carried out. Many of those species still remain, with Hadfield explaining their native vegetation management practices which form a key aspect of course operations.

There is no fairway irrigation at Frankston with the course relying solely on stormwater runoff from the carpark for irrigation. In some years this provides as little as 6ML, but the club is currently engaged in a joint venture with the local council to bring recycled water to the course. Hadfield also discussed some of their fairway trial work.

At Long Island, course superintendent **Simon Page** teamed up with **Leigh Yanner** to take the group on a tour of the course. Long Island Country

Club merged with The National back at the start of 2015, adding to the latter's stable of three famed Mornington Peninsula courses (Old, Moonah and Ocean).

Page and Yanner discussed managing the common couch/Santa Ana fairways and the recent switch to a deep and infrequent fairway watering regime across all of The National's courses. Page also spoke about renovation practices on Long Island's *Poa/bentgrass* greens over the past three years, using hollow tine coring and the Air2g2 machine to relieve deep compaction and bring about firmer and more consistent surfaces.

The group also viewed the old bowling greens, which are being converted into a nursery, while Yanner outlined the planned works to be undertaken to the practice range which is located in a retarding basin. The tour finished with a look at the construction of the new practice fairway tee which will be sown with ryegrass instead of couch. The cool-season variety has been chosen for its quick regeneration as The National provides unlimited range balls to members as part of their membership which puts a big strain on the turf.

Thanks to Nuturf for sponsoring the day and providing a presentation on two new products with active ingredients that will help turf managers with their rotation options.

All A Class members have received part one of the VGCSA *Poa annua* Trial Report conducted during the winter of 2017. This will be followed by a part two report on work which was conducted in late 2017. Some interesting results have come from the trials and hopefully members will be able to utilise findings of both scientific papers to integrate into their *Poa annua* management strategies.

Many thanks to VGCSA secretary **Shane Greenhill** (Sorrento Golf Club), and **Andrew Peart** and **John Neylan** for their commitment and professionalism in conducting the extensive works needed for the trials. Also many thanks to the golf clubs who provided venues for the trial works. The VGCSA will be conducting further trial work in the near future once subject matter has been decided upon.

The next stop on the calendar will be the 91st Annual General Meeting which will be held at The Victoria Golf Club where I'm certain host superintendent **Steve Newell** will be providing excellent playing surfaces for our major golf event. There will be a number of changes on the VGCSA committee at the AGM with myself, **Steve Hewitt** (13th Beach) and **Kyle Wilson** (Moonah Links) standing down. Many thanks to both Steve and Kyle for a fantastic job during their tenure.

MAT POULTNEY
PRESIDENT, VGCSA



SIX THE BEST FOR THIRTEENTH BEACH CREW

The 2018 Oates Victorian Open
Thirteenth Beach crew

The Oates Victorian Open continued its successful tenure at Thirteenth Beach Golf Links in early February with superintendent **Steve Hewitt** and his crew again delivering the 36-hole facility in superb condition. It was the sixth consecutive year Hewitt and his team have prepared for the PGA Tour of Australasia event which comprises both men's and women's fields and held across the Beach and Creek courses.

It is a huge exercise in logistics, essentially preparing two courses for two separate tournaments at the same time. In order to do that, Hewitt had a crew of 19 for the tournament week this year, including volunteers from nearby Anglesea and Clifton Springs golf clubs, among them AGCSA president **Brett Balloch**. They assisted on the Thursday and Friday mornings when there were 36-hole, 4-tee starts from 7am.

Preparations for the Open literally started to heat up on the Sunday prior to the tournament, a day which maxxed out at 38 degrees. Some 42mm of rain then fell that evening causing widespread bunker washouts, the third year in a row this has happened in the lead-up to the tournament. The

crew worked around the clock in the days following to get them up for the opening round. "I would have preferred 42 degrees rather than 42mm of rain," says Hewitt. "It was a massive workload to rectify the bunkers and the staff did an amazing job reinstating them to good condition prior to the tournament."

Thankfully the weather remained perfect for the rest of the week with only the afternoon winds posing issues for those completing their rounds late in the day. A light hand water of greens on Friday and Saturday helped to see them through the weekend, with tournament speeds around 10.5'-11' as requested by the tournament organisers.

"The turf surfaces were some of the best we've presented for the Vic Open to date," says Hewitt, "We were very pleased with some of the changes to our maintenance programme and the subsequent good results. The crew did a great job and I'd also like to thank **Dean Hill** (Toro) for assisting us with additional mowers and **Matt Scott** (Simplot Partners) for organising tournament shirts for the guys. The tournament continues to grow and the galleries were again very strong, which is a testament to the unique format that both the golfers and spectators love."



**MELBOURNE
CHAIN WIRE
FENCING**

**SECURE AND ATTRACTIVE
FENCING SOLUTIONS**

- Boundary
- Enclosures & Partitions
- Parking

p. (03) 9437 1472 | e. sales@melchain.com.au

www.melchain.com.au/golf

GOLF COURSE FENCING SPECIALISTS

Brush Panel | Chain Link | Shade Cloth | Timber Bollard | Tubular Steel



STA WA



Award recipients at the recent WA turf industry awards held at Hartfield Country Club



Matt Vroom (centre) receives the Bayer Shield from Danny Hambleton (Globe Australia, left) and Josh Walker (Nuturf)

The WA turf industry celebrated its 36th annual awards on Tuesday 23 January. Usually held in November at the close of the academic year, this year's event was postponed to January and redesigned as a more relaxed sundowner rather than the traditionally staged buffet dinner.

The award recipients this year were:

- **Lecturers Choice Award (sponsored by Lawn Doctor):** Patrick Bowden (Kalgoorlie Golf Club)
- **Best Student in Certificate of Trade Studies in Turf Management (Bayer Shield):** Matthew Vroom (Mandurah Country Club)
- **CH Bailey & Sons Perpetual Shield (sponsored by Baileys Fertilisers):** Reid Lukasik (John XXIII College). Unfortunately, Reid was not present due to illness.

This year the WA turf industry and I were very proud to present the Sports Turf Industry Person of the Year Award for 2017 to a man that, as they say, needs no introduction – **Barry (John) Forrest** (South Metropolitan TAFE). This award is sponsored by the Turf Growers Association WA and STA WA.

John's award capped off a great night held once again at the familiar clubroom at Hartfield Country Club. The new semi-formal sundowner format seemed to be a hit as it afforded everyone

the freedom to network and enjoy the company of friends and colleagues. Congratulations to all graduates and award recipients.

February these days seems to be quite a social month for the STA WA in Perth. Many would say that you never need to look hard for a good reason to host a social gathering, and STA WA members had the opportunity to attend two in recent times.

The first was the annual barbeque breakfast at South Metropolitan TAFE which was held in early February at the start of the new teaching term. While it has its roots in the idea of bringing together students, trainers and supervisors, it is taking on the feel of a very relaxed meeting amongst friends. Thanks must go once again to John Forrest, **Jeff Austen** and **Wayne Miller** from the South Metropolitan TAFE turf department for helping provide such a collegial and welcoming morning.

Our second social gathering occurred a few weeks later at Ascot racecourse for our annual Members Day social event. A strange testament to the success of the day was the common comment that, unlike past years, during the more than three hours at the event this year many of us didn't see a single horse gallop past! We like to think that it was the stimulating conversations among enlightened company that kept patrons from the track, rather than the fact that the main bar where everyone was gathered was 50m too far from the barrier fence.

Our next STA WA event is an irrigation seminar planned for Thursday 12 April. The association is very grateful to our sponsor Reece Irrigation for their assistance with organising the day at their massive new distribution centre in Jandakot. We hope it will be an enjoyable and educational day for all who attend.

TONY GUY
PRESIDENT, STA WA

STA QLD



STA Queensland hosted its first event for 2018 at the University of Queensland on 13 March with a focus on professional advancement. This will be closely followed by the AGM on Tuesday 17 April at the Broncos Leagues Club, featuring guest speakers who worked on the construction of the new training field. A number of executive committee positions will become available at the AGM and I ask members to consider stepping up.

Most of all we are looking forward to the first ever STA Queensland Grounds Managers Dinner on 4 May at the Queensland Cricketers Club at The Gabba. With awards for community, public school and private school facilities, as well as innovation and new construction awards, there is a lot of opportunity for our community to be recognised.

Congratulations to our two exceptional Queensland Sports Turf Graduate finalists – **Sam Nickolls** (St Andrew's Anglican College) and **Dalton Toms** (Green Options). One of these lucky gentlemen will be representing STA Queensland at the national awards which will be judged in Melbourne in April. Thanks to our Platinum Partner Toro Australia for their continued support of graduates in the sports turf industry.

And finally, **Kristy Pratsch** is now assisting the STA in a part-time role. If you have any questions about association events or membership, please email her at admin@staql.com.au.

MAL CADDIES
PRESIDENT, STA QLD

As the cooler months approach we are being blessed (or is it cursed) with warmer temperatures and lower rainfall. This has had an impact on Victoria and especially Melbourne where we are seeing parks and gardens go from green to brown in a very short time. Our services and skills are being exercised to sustain our status as the 'Garden State'.

STA Victoria was very excited to receive four nominations for the Toro Graduate of the Year Award. All applicants were incredibly enthusiastic and passionate about their work and it was a tough decision for the interview panel. Just reading through their applications, they are already winners!

Representing STA Victoria in the national final will be **Rhys Taylor**. Rhys completed the Certificate III in Sports Turf Management at the Wodonga Institute of TAFE and is employed by the Benalla Racing Club. Rhys will attend the Toro National Sportsfield and Grounds Forum on 10 April 2018 at Wesley College together with other states finalists. The winner from this next round of interviews will attend the USA Sportsfield & Grounds Forum in 2019. We wish Rhys well.

Our first event of 2018 will be a Safety Seminar coupled with a tour of the revamped and rebuilt Junction Oval. This event will be held on Tuesday 17 April and sponsored by Bayer. Listen to valuable safety updates in brand new surrounds at the home of Cricket Victoria. The sessions will be followed by a tour of Junction Oval including the heritage-listed grandstand. As numbers are limited for this event, bookings are essential. Please contact Jan Fenton by email vic@sportsturf.asn.au.

The programme for our main event of the year is progressing well. The annual Sports Turf Seminar will be held at the MCG on 25 July. A panel segment consisting of members from city councils working in sportsfields, recreation and open space areas will be informative and enlightening.

If you have any questions for them, also drop Jan an email, and likewise if you have any particular topics you would like to hear about at this seminar please let us know. We look forward to catching up with you at these seminars.

COMMITTEE, STA VIC



STA Victoria Sports Turf Graduate of the Year winner Rhys Taylor

TURF AUSTRALIA



Since commencing as Market Development Manager for Turf Australia in late January 2018, it has been a whirlwind of meetings and planning for the project. The challenges of this new position are exciting and I look forward to working hard for the Turf Australia Board, Turf Australia's members and the wider turf industry to meet the expectations of the role and demonstrate my passion and commitment for improving and supporting our industry.

The National Turf Market Development Project (TU16002) is a broad one covering many aspects of our industry and is funded through the Hort Innovation Turf Fund, matched government funds and funds provided by Turf Australia. Some of the key outputs of the project are:

- Collaborate with the wider turf industry and stakeholders building opportunities to promote the value and benefits of turf and determine R&D opportunities. Organisations include landscapers, designers, planners, local government and the sports turf maintenance sector;
- Disseminate findings of turf research projects.
- Establish opportunities for the turf industry to improve farm practices and profitability.

During the first few months in the role, I've been able to connect with various organisations and groups that make up the wider turf industry and collect information to assist in developing a

stronger united industry. To date, several meetings have already been held with the likes of Nursery and Garden Industry Australia, the AGCSA, STA, Turf Breed, Lawn Solutions Australia and independent turf researchers.

These meetings are assisting in identifying the shortfalls and areas for improvement and looking for opportunities within the whole turf industry. This will assist me in developing the strategic plan of the National Market Development Project. In discussions so far, it is apparent that everyone is supportive for collaboration of the turf and wider green industries to give everyone a stronger voice.

One of the first steps in collaborating within the turf industry are plans to have a group of turf producers attend the Australasian Turfgrass Conference to be held in Wellington, New Zealand. As many readers will know, the importance and value of attending the conference is great in respect to the knowledge gained and networking opportunities.

I welcome any member of the wider turf industry to contact me to discuss suggestions that would benefit the industry. I can be contacted at the Turf Australia office on (02) 4588 5735, mobile 0408 441 119 or email jenny.zadro@turfaustralia.com.au.

JENNY ZADRO
MARKET DEVELOPMENT MANAGER,
TURF AUSTRALIA

New world order

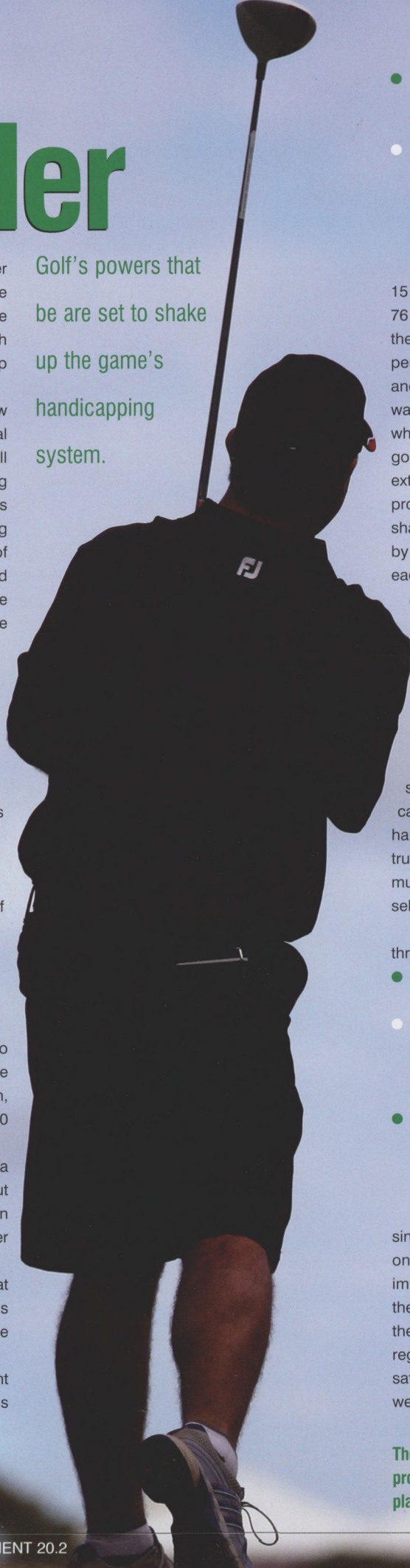
On 20 February 2018 The R & A, together with the USGA, announced that the way golfers around the world calculate their handicaps will dramatically transform with the introduction of the new World Handicap System (WHS).

To be implemented in 2020, the new system developed by the two international golfing bodies is designed to provide all golfers with a consistent measure of playing ability. It follows an extensive review of systems administered by six existing handicapping authorities: Golf Australia, the Council of National Golf Unions in Great Britain and Ireland, the European Golf Association, the South African Golf Association, the Argentine Golf Association and the USGA.

The new system will feature the following:

- Flexibility in formats of play, allowing both competitive and recreational rounds to count for handicap purposes and ensuring that a golfer's handicap is more reflective of potential ability;
- A minimal number of scores needed to obtain a new handicap; a recommendation that the number of scores needed to obtain a new handicap be 54 holes from any combination of 18-hole and 9-hole rounds, but with some discretion available for national or regional associations to set a different minimum within their own jurisdiction;
- A consistent handicap that is portable from course to course and country to country through worldwide use of the USGA Course and Slope Rating System, already successfully used in more than 80 countries;
- An average-based calculation of a handicap, taken from the best eight out of the last 20 scores and factoring in memory of demonstrated ability for better responsiveness and control;
- A calculation that considers the impact that abnormal course and weather conditions might have on a player's performance each day;
- Daily handicap revisions, taking account of the course and weather conditions calculation;

Golf's powers that be are set to shake up the game's handicapping system.



- A limit of net double bogey on the maximum hole score (for handicapping purposes only);
- A maximum handicap limit of 54.0, regardless of gender, to encourage more golfers to measure and track their performance to increase their enjoyment of the game.

Quantitative research was conducted in 15 countries around the world, through which 76 per cent of the 52,000 respondents voiced their support for a World Handicap System, 22 per cent were willing to consider its benefits and only 2 per cent were opposed. This was followed by a series of focus groups, in which more than 300 golf administrators and golfers from regions around the world offered extensive feedback on the features of the proposed new system. This feedback helped shape the WHS, which has been developed by The R&A and the USGA with support from each existing handicapping authority as well as the Japan Golf Association and Golf Canada.

The R&A's chief executive Martin Slumbers says the WHS was about making the game of golf more modern, more accessible and more enjoyable as a sport: "We want to make it more attractive to golfers to obtain a handicap and strip away some of the complexity and variation which can be off-putting for newcomers. Having a handicap, which is easier to understand and is truly portable around the world, can make golf much more enjoyable and is one of the unique selling points of our sport."

The tenets of the new system focus on three main objectives;

- To encourage as many golfers as possible to obtain and maintain a handicap;
- To enable golfers of differing abilities, genders and nationalities to transport their handicap to any course globally and compete on a fair basis; and
- To indicate with sufficient accuracy the score a golfer is reasonably capable of achieving on any course around the world, playing under normal conditions.

Given worldwide alignment towards a single system, all parties will now embark on a two-year transition period targeting implementation in 2020. When adopted, the WHS will be governed by The R&A and the USGA and administered by national and regional associations around the world, with safeguards included to ensure consistency as well as adaptability to differing golf cultures. 🌱

The new handicapping system is designed to provide all golfers with a consistent measure of playing ability

Making good turf great from tee to green

When wet weather leads to a surge in growth on your golf course, use plant growth regulator PRIMO MAXX to keep things under control.

PRIMO MAXX slows vertical growth and diverts energy to the roots, promoting dense, stronger and healthier turf which requires less mowing.

See the benefits from tee to green:

- Resilience against wear and tear
- Up to 35% less mowing
- Smoother, truer putting surface
- Consistent speed and quality all day on the green
- Maintenance cost savings
- Faster establishment with overseeding



syngenta®

For more information ask your Syngenta Agent or go to 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 Syngenta Group Company. ™Trademark of a Syngenta Group Company. All products written in uppercase are registered trademarks of a Syngenta Group Company. © 2018 Syngenta. AD 18-071

®

SIMPLY SUPERIOR.

MORE COMFORT. MORE POWER. MORE VERSATILITY. MORE CONTROL



Extension Kit



Canopy



Bed racking

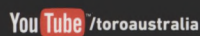
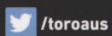
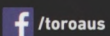


Hose reel mount

The Workman GTX is a grounds and turf crossover vehicle that boasts an unequalled combination of comfort, power, utility and control, making it simply superior to the competition. Its increased power, improved steering and exclusive suspension and braking systems make the Workman GTX the most versatile, practical and comfortable utility vehicle in its class. Available in petrol or electric options, the Workman GTX features hundreds of configurable options that include front and rear attachments, a flat bed and a four-seat option, to name a few. So whether you are setting cups, checking on irrigation, or moving people or materials, the Workman GTX has the power and versatility to get the job done right.

For more information, call 1800 356 372 or contact your Toro Golf Area Sales Manager.

toro.com.au



TORO