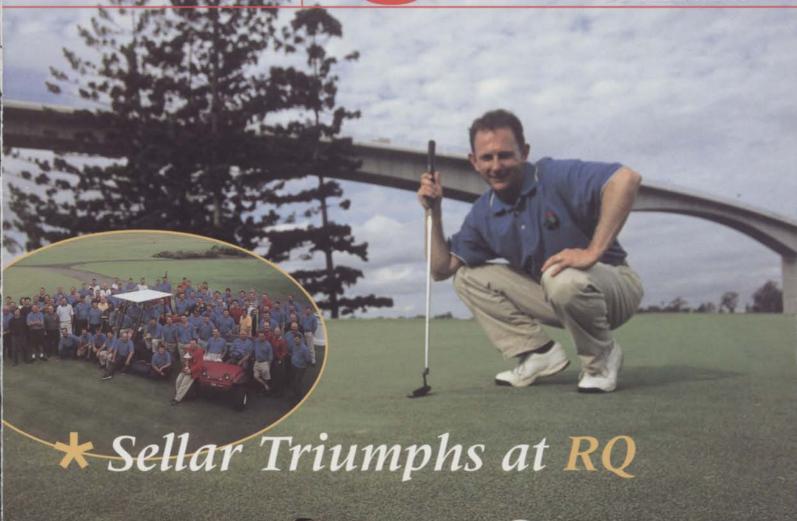
AUSTRALIAN

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2002 AGCSA Award Winners

- Conference Review
- TOOL TEST Tackles Topdressers

volume 4.4







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Australian Turfgrass Management Published by:

Australian Golf Course Superintendents Association ABN 960 532 058 88

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Covering all the highlights of the Conference that many have rated as the 'best ever'!

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TOP SHOW

A clear endorsement of the flexible format of the educational streams and the high quality of speakers, over 650 delegates flocked to Brisbane for the 18th Australian Turfgrass Conference and Trade Show.

It really was a fantastic week and all delegates and exhibitors are to be congratulated for such positive involvement.

Highlights of the Conference included the AGCSA Golf Championships, presentation of the AGCSA Awards and Trade Show that was brilliantly presented and attended. All of these events are reviewed from page 8.

This edition pays particular attention to 'greens dusting'. AGCSATech's John Neylan reviews dusting as a thatch management technique and the very popular ATM TOOL TEST returns to compare three machines designed for the topdressing of greens and tees. If you dust, you simply cant miss this.

Also in this edition, we publish research by David Aldous and Darren Balfour on the use of lime as an amendment to golf course fairways and Percy Wong from the NSW Department of Agriculture discovers "Wongoonoo Patch", a new disease of buffalo grass.

Best Regards

Milling graf of

Phil George Editor / Publications Manager



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President's Pen

With the 18th Australian Turfgrass
Conference in Brisbane now behind us it is
great to reflect on the success of the week,
with special mention to the recipients of the
2002 AGCSA Awards:

- Glenn Dawson AGCSA Graduate of the Year
- Jeff Austen AGCSA Claude Crockford Environment Award, presented in partnership with Chipco
- Gary Bass AGCSA Excellence in Golf Course Management Award, presented in partnership with John Deere
- Doug Robinson and Peter Sawyer AGCSA Distinguished Service Award, presented in partnership with Scotts Australia.

It has been quite satisfying the support the Awards programme has received this past year from Club's and this can only strengthen the stature of the Awards. The continued support of the Awards from the companies previously mention is also greatly appreciated by the AGCSA.

It was certainly great to see so many international (Malaysia, South Africa, Israel and the Middle East and of course NZ) delegates attending the conference and I certainly hope that they have been able to take something back to their homelands that will encourage them (and their colleagues) to return to Australia in future years.



With a conference such as the one in Brisbane being so well received the AGCSA is now focussing on the year ahead including the next Conference to be held in Adelaide

Members and conference delegates will have received their survey forms and if everyone can take a few minutes to fill these out and return them it certainly helps the Board and staff to maintain the momentum of the Brisbane event. The AGCSA are always looking at ways to make the annual Conference appealing to all those who work in the turf industry.

As reported at the AGM in Brisbane the AGCSA was able to post a profit once again (albeit a small one) however, it is certainly hoped that the boom/bust scenario that existed a few years ago can be a thing of the past. This is not to say that we should rest on our laurels because every year has the potential to be a difficult one for the Association and member support of the

activities and initiatives is paramount to the continued success of the Association.

With winter months upon us I hope that Turf Managers around Australia are taking the opportunity to get some quality time away from the hectic work schedules that are so demanding of our time in the warmer months, or at least catching up on some of those little things that we never have time for.

In closing I would like to thank all those who have supported the Conference in Brisbane, as well as the efforts of Euan and the staff of the AGCSA. The Board welcomes the challenge of the next 12 months and hopes that all the members continue to support our initiatives.

Mark K. Couchman AGCSA President Golf Course Superintendent, Tewantin Noosa GC.



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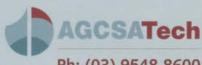
Andrew Peart Joins AGCSATech

The AGCSA is expanding its technical division with the appointment of Andrew Peart as Technical Officer.

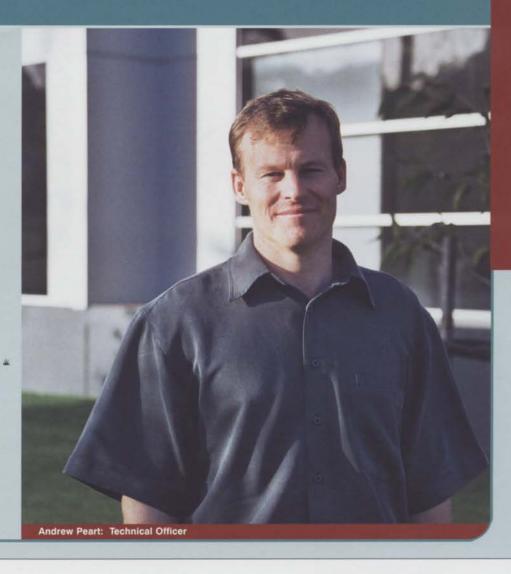
Andrew will be working with John Neylan to deliver turf consultancy and research activities providing a wider range of analytical and information services to members and others in the sports turf industry.

Euan Laird, AGCSA Chief Executive Office said, "Andrew will further strengthen the AGCSA's ability to deliver services to members where it counts at their golf course".

With nearly 10 years' experience in the sports turf industry, including turf production, research and consultancy in Australia and overseas, Andrew has much to contribute to AGCSA members.



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18th Australian Turfgrass Conference & Trade Show



A clear endorsement of the flexible format of the educational streams huge numbers of delegates flocked to the Brisbane Convention Center for the 18th Australian Turfgrass Conference and Trade Show.

Spaced over three days and with a greater emphasis on panel discussions and workshops, close to 800 turf managers registered for either the Golf Course Management or General Turf educational streams Delegates were treated to presentations from the likes of Joe Vargas (Michigan State University), Dr Richard Gibbs (NZ STI), Dr David Huff (Penn State University), Dr Earl Elsner (Georgia Seed Development Commission) and Martin Gunn (BIGGA).

The program of international speakers was complimented beautifully by some of this countries finest presenters and if only to be guided by the exceptionally high levels of attendance and the strong interaction from delegates during workshops and panel discussions, the educational component of the week was a huge success.

Traditionally, the Trade Show component of conference week is a highlight and this year was no exception. The products and services of approximately 60 companies was on display to the over 1500 'wide-eyed' turfies (some actually traveling from interstate for the trade show alone!), who made the most of the event. Compared with previous years, this years trade show was slightly abbreviated in length and in size and as a result most exhibitors found that they were kept busy with a constant stream of enquiries.

The commitment that the companies participating in the Trade Show continue to give this industry in absolutely outstanding and the level of professionalism that they bring to











events such as this is first class. The 'trade' play a crucial role in assisting the AGCSA promote and encourage the profession of turf management in this country and as turf managers they deserve our recognition and support.

Highlights of the week included the AGCSA Golf Championships presented in partnership with Toro Australia and held at the Royal Queensland Golf Club and the AGCSA Awards presentation ceremony that was followed by the Welcoming Cocktail Reception, proudly supported by Chipco. Themed "Hawaiian",

attended by over 500 people and held at a mystery location (Breaka Beach, South Bank), the cocktail party got the week off to a fantastic start and set the scene for unprecedented levels of interaction and communication.

'Corporate Imposter' Homer Papatino injected the Conference Dinner with customary humor and a surprise appearance by 'The King' AKA Joe Vargas stole the show with some hip shaking favorites before handing the stage back to 'Lush' who kept the dance floor busy.



AGCSA Golf Championships





Over one hundred AGCSA members participated in the 2002 AGCSA Golf Championship

Reflecting the growing interest and tradition of the event, the 2002 AGCSA Golf Championships were preceded by the "Toro Golf Champions" function hosted by Toro Australia, where previous winners of the event were honored with the presentation of 'red jackets' and all players were presented with their golf shirts and allocated tee times for the following morning.

A spectacular electrical storm and torrential rain the night prior to the tournament did not prevent Kelly Hyland and the course management team at the Royal Queensland Golf Club from having the course in superb



condition and one could sense that the low markers in the field were primed for an all out assault on the RQ layout.

In the Open event, contested by those talented enough to have a handicap of twelve or less, defending champion, Daryl Sellar from the Glenelg Golf Club holed everything for a one under the card 72 to hold off a fast finishing Trevor Ridge from Sawtell Golf Club (73) to win his second red jacket in as many years. One feels that Daryl will take some stopping next year in his home town?

With a score of 40 points Glen Davie from the Freeway Golf Club took out the Stableford event and lead brilliantly by Martyn Black, the NSW 'blues' were victorious once again in the teams event.

The AGCSA National Golf Championships were again sponsored by Toro Australia and their gracious support was appreciated by all.



NSW Team: L-R Richard Walne (Toro) Scott Riley, Michael Waring, Martyn Black (captain), Alan Woods



Daryl Sellar (Stroke Winner)

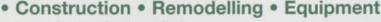


Glen Davie Stableford Winner)



Previous winners of the AGCSA Golf Championship were presented with Toro Red Jackets

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18th Australian Turfgrass Conference & Trade Show





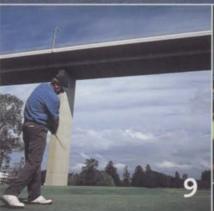






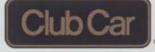












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2002 AGCSA Awards

The AGCSA Awards program is synonymous with outstanding achievement and once again, this years nominees and award winners embody the passion and commitment to excellence that these awards represent.

Presented in partnership with Scotts
Australia, the 2002 AGCSA Distinguished Service
Award was bestowed upon Peter Sawyer and
Doug Robinson. Both 'great men' of the
industry, this award recognizes the contributions
they have made to the Turf industry at both
state and national levels and acknowledges the
direction and inspiration they have given to
generations of golf course superintendents.

Recognising a demonstrated commitment to environmental stewardship, and presented in partnership with Chipco, Jeffrey Austen from the El Cabalo Resort, 60 kilometers east of Perth in Western Australia was announced the winner of the 2002 AGCSA Claude Crockford Environmental Award. Dealing with a restricted supply of poor quality water and a limited budget, Jeff has managed to create a golf course of exceptional quality whilst restoring a previously sterile environment to one now boasting a diverse selection of native flora and fauna.

Presented in partnership with the John Deere Company, Gary Bass from the Croydon Golf Club in Victoria emerged from a talented group of finalists to become the worthy recipient of the 2002 AGCSA Excellence in Golf Course Management Award. In the three years that Gary has been Superintendent at Croydon, thirteen of fourteen fairways have been converted from cool season grass to couch, bunker complexes on eight holes have been rebuilt and Gary has supervised the construction of four new holes and developed course and budgetary management practices that are helping this club develop respect amongst its peers.

This years 2002 AGCSA Graduate of the Year is Glenn Dawson, foreman at the Federal Golf Club in the A.C.T. Since beginning his apprenticeship early in 1998, Glenn has performed a number of different roles including mechanic and irrigation technician and has always performed above and beyond the call of duty. Glenn was also a finalist in the Turfgrass Association of Australia (ACT / Southern Tablelands region) and is currently pursuing an internship with the Ohio State University with the intension of gaining overseas experience. In recognition of his efforts, Glenn also receives an all expenses paid trip to attend the 19th Australian Turfgrass Conference and Trade Show to be held in Adelaide. .



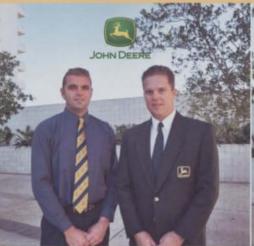
AGCSA Award Winners and finalists with Award Sponsors



Campa Campa

Doug Robinson, Peter Sawyer & Martin Morgan

Jeff Austen with Lou Gall from Chipco



Garry Bass with Greg Clark from John Deere



Glenn Dawson with AGCSA President Mark Couchman



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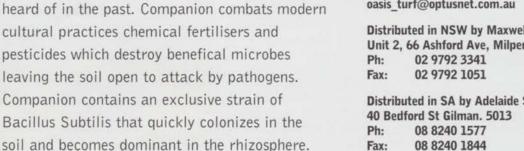
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2002 AGCSA Distinguished Service Award-

Peter Sawyer and Doug Robinson are joint recipients of the 2002 AGCSA Distinguished Service Award. What follows is their profiles and impressions upon receiving this prestigious awards.



PETER SAWYER

Possessing the rare distinction of having trained under the legendary late Mr. Claude Crockford, Peter Sawyer has been involved in the turf industry since 1970, 25 of those 32 years spent as a superintendent.

Currently at the 36-hole, Indooroopilly Golf Club, Peter has worked as the Golf Course Superintendent at: Yarra Yarra Golf Club; Southern Golf Club; Floraville Golf Club in Thailand and restored The Metropolitan Golf Club back to international standard.

In addition to this Peter has been involved with the construction of courses such as the Heritage Golf and Country Club, Patawalonga Golf Club, Sanctuary Lakes Golf Club and the Capital Golf Club and also spent 4 years in a business with John and Mark Grove that specialized in golf course construction and included extensive work to a number of courses on Melbourne's 'sand belt'.

Peter has been heavily involved with both the Victorian (served as President) and the Australian Golf Course Superintendents Association where he worked hand in hand with state associations to overcome their differences and develop the AGCSA to how it is recognized today. Peter continues to give freely of his time to these organizations. A highlight of Peters career was the presentation of the Australian Sports Medal for services to the turf industry.

Peter views the Distinguished Service Award as the ultimate praise and recognition of his 30 years in the golf industry and made special mention of the extra significance of following in the foot steps of previous recipients such as Dr. Peter Martin, Peter McMaugh and respected Superintendents in the league of Neil Adams and Bill Powell.Peter said that the AGCSA Awards Program provided a meaningful opportunity to recognize and pay tribute to the achievers in the turf industry and a valuable forum to improve the national image of Superintendents and the industry as a whole.

Peter also made the observation that although it is important that the AGCSA doesn't become a bystander within the industry, it must never loose sight of of why the AGCSA was formed:

"Fraternity, provide mutual assistance and sharing of ideas, build relationships with club officials and golf associations, promote the status of Golf Course Superintendents and cooperation with like associations"



DOUG ROBINSON

Doug Robinson has been involved in Turf Culture for the past 35 years. After completing his time as a Fitter Welder at an engineering business in his home town of Oberon on the NSW Central Tablelands he moved to Coffs Harbour and secured a position as a Trainee Greenkeeper at Coffs Harbour Golf Club.

After completing his trainee-ship he moved to Gold Coast Burleigh Golf Club as assistant to his mentor from Coffs Harbour, Les Neuhaus. His time at Burleigh was short lived after he successfully applied for the Head Greenkeeper position at Southport Golf Club. This move seemed premature to Doug but Neuhaus believed "it would be the making of him".

Doug started work at Southport early 1973 and it was during his time here that he became Hon. Secretary/Treasurer for the Queensland Golf Greenkeepers Association, the start of what was to become a 20 year involvement in State and National Association activities.

On moving from Southport to Sydney's Concord Golf Club in 1976 Doug was co-opted on to the NSW Superintendents Association to assist in the organising of the 1978 National Conference following his involvement with the successful 1976 conference.

It was the '76 conference that saw James
Beard make his first visit to an Australian
Superintendents Conference. Doug was
ultimately elected to serve on the committee of
the NSW Golf Course Superintendents
Association. He worked as Superintendent at
Manly Golf Club for a time before returning to
the Gold Coast to assist his long-term friend Les
Neuhaus at Tweed Heads Coolangatta Golf
Club in 1980. Les was seriously ill and wanted
his protégé to carry on his development work at
the club. Unfortunately Les passed away a couple
of months after Doug had taken up the position.

Doug was ultimately elevated to the position of Course Manager and in that role saw the club develop into a 36-hole facility. Again Doug became involved with the Queensland state association serving on committee and as President. This involvement saw him continue to be active within the national movement. During this time he realised that if the National Association was going to work in the interest of the members and the industry generally it had to stand-alone and have complete autonomy by having a board elected by the membership. He became the inaugural President of the newly incorporated Association and served in that position from 1988 - 1994. When he stepped down from office at the Adelaide Conference in 1994 he had completed 20 years of dedicated service to the Superintendent movement.

Doug is proud of the fact that he has attended all but one conference since 1974. A significant highlight in his career was receiving the Australian Sports Medal, for services to golf, in 2000. The presentation of the AGCSA Distinguished Service Award is the ultimate accolade and is something he says he will cherish forever. Upon receiving his award Doug expressed his sincere thanks to Scotts Australia for their continued sponsorship of this most prestigious award. He emphasized that the AGCSA awards programme is very special and as time passes the significance of each award will grow and become more and more sought after by the Membership.

Reflecting upon those years of involvement he recalls the tensions of the late 70's early 80's and how the will of the members endured the issues of not becoming a registered union. The National Turf Conference grew from an event that was held entirely within a major city hotel and hosted by hard working State Associations on a rotational basis to what it is today.

The education of Greenkeepers has developed and improved because of the efforts of the Superintendents through the various State Associations. Eventually overcoming the ups and downs associated with getting an Association magazine that reflected the needs of the Superintendent Movement.



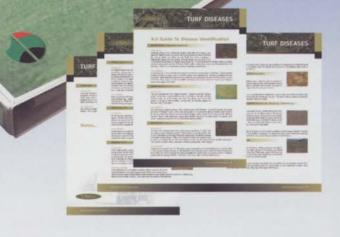


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2002 AGCSA Claude Crockford Environmental Award-Jeffrey Austen, El Caballo Golf Resort



Lou Gall (Chipco) with Jeff Austen

Two years ago at the Margaret River Turfgrass Conference in W.A, Allan Devlin, Superintendent at the Secret Harbour Golf Course and winner of the 2000 AGCSA Excellence in Golf Course Management Award spoke to Jeff Austen about the Award Program offered by the AGCSA. Two years later and Jeff is the proud winner of the 2002 AGCSA Claude Crockford Environmental Award that recognizes a demonstrated commitment to environmental stewardship.

After the completion of a pre-apprenticeship at the Bentley TAFE in 1986, Jeff decided that a career in turf management is where he was headed and was lucky enough to land a position as the apprentice greenkeeper at the Royal Perth Golf Club, under Superintendent Len Downing who Jeff credits with the principals of turf management that he still follows today. After completing his apprenticeship in 1991 Jeff spent two years traveling overseas and eventually, in 1994 Jeff returned to Royal Perth Golf Club.



Open 'rock drain' on fairway

Since the mid 1970's, the site of the El Caballo Golf Resort located 60km east of Perth in the Darling Ranges was known for its famous 'dancing horses', waterslides and 'family fun park'. The 40 acres of lush kikuyu horse paddocks associated with this complex was the dumping ground for effluent water from two nearby abattoirs but as housing encroached and environmental laws toughened, the abattoirs (owned by the owners of El Caballo) were threatened with closure.

The construction of a golf resort offered a solution to the environmentally responsible disposal of 350,000m³ of effluent water and in 1994 bulk earthworks began in the construction of an 18-hole golf course. Enter Jeff Austen as Assistant to Mark Claes and by May 1995 Mark, Jeff and their team were in the final stages of shaping the first 9 holes before 56mm of overnight rain washed the topsoil into lakes, bunkers and hollows. The results were devastating and it took a further 2 1/2 years to finish construction.

In May 1996 Jeff was promoted to Superintendent after Mark Claes left El Caballo Golf Resort to pursue course construction in Asia.

Jeff supervised all facets of the construction of the second 9 holes to ensure the site would comply with D.E.P. licence conditions and thus began the creation of a unique golf course environment that openly embraces the use of effluent waste water as an irrigation alternative.

Work over the last six years can be summarized under the following headings:

Stormwater Management

The golf course has been designed and shaped to protect inland terrestrial water resources from pollution. 3 kilometers of open rock drains and 2 kilometers of subsoil drains along with carefully designed mounds and swails direct stormwater drainage and surface run-off into a system of lakes that hold approximately 310,000m³ of water. Transfer pumps are then used to shift water into the large storage dams to prevent any overflow into the Chinganning Brook (tributary to the Swan).

Re-vegetation

Over the past six years, Jeff and his team have planted over 7,000 trees and shrubs, of which, approximately 4,500 have survived. Most of these were native species such as Sheoks, Gums, Jarrah, Wandoo, Banksia and Grevilleas.

The task of re-vegetation has had to compete with sodic, poorly drained soils, numerous washouts, irrigation water very high in salts and a large bushfire in January 1997

that burnt approximately 500 seedlings and devastated the surrounding environment.

Pollution Prevention

In September 1996 Jeff began a complete overhaul of the greens irrigation system. All valve in heads were replaced with single solenoid scrubber valve from the mains with the same gear driven heads as used on the fairway. These didn't seem to get as clogged with algae and the run time was reduced from over 5 hours to just over 1 hour and thirty minutes.

In an attempt to mask odours from the effluent water treatment ponds, Blue Gums have been planted along the western boundary of the course and an air injection system installed in the lakes has put an end to the massive tides of Blue Green Algae that once choked the dams. Also, wetland environments have been constructed around the majority of the storage dams. These have flourished and help to reduce nutrient levels in the water, filter water that enters the dam as runoff and provides a critical breeding habitat for aquatic bird life.

Wildlife

Kangaroos are prolific in the surrounding bushland and are now starting to venture out onto the golf course. Snake lizard and bobtail lizard sightings are increasing every year and the population of insects, water birds, fish, yabbies and Long Neck Turtles is exploding.

With the bleak predictions of changing weather patterns, expanding population and an increased demand on potable water, Jeff believes that it is critical that Golf Course. Superintendents remain on the 'frontier' of environmental best practice and applauds the support that Chipco has given this important industry initiative.



El Caballo Golf Resort

Chipco

Aventis Environmental Science







2002 AGCSA Excellence in Golf Course Management Award- Gary Bass, Croydon Golf Club





One of Gary's earliest recollections of his experiences in the turf industry involve Peter Sawyer so it was rather ironic that Gary Bass would be awarded the AGCSA Excellence in Golf Course Management Award in the same year that Peter was recognized with the Distinguished Service Award.

Gary said, "In 1986 I won the Victorian Apprentice of the Year Award which was presented to me at a VGCSA meeting by Peter Sawyer who I am pretty sure was the President at the time. Peter said 'Gary, this is just a piece of paper, it is worth something if you are dedicated and are prepared to put in the work, alternatively, you can just throw it away'"

Clearly, Gary has put in the work and he is a very worthy winner of this award.

Beginning his career at Spring Valley under John Sloan, Gary quickly worked his way to Assistant Superintendent and was fortunate to have the opportunity to work on a number of different courses including Long Island and Woodlands and was involved in course preparation for a number of Victorian Opens.

Gary then moved to Camberwell Public Golf Club (Freeway Golf) as Superintendent and spent four years redeveloping the course and successfully tendered for the course maintenance under the local government competitive tendering program.

Upon reflection, Gary found the challenge of working with a small team on an even smaller budget on a course with very high patronage, to be very rewarding.

In 1999 Gary was appointed Golf Course Manager at the Croydon Golf Club where he was responsible for not only the maintenance of the course but the formulation of a course master plan involving significant course reconstruction.

For the first two years at Croydon, Gary worked very closely with the course consultant and during that time transitioned all fairways to Santa ana couch, significantly reduced Poa annua in greens, rebuilt tees and bunkers and completely overhauled the staff structure and work programs, and greatly improved the 'lines of communication' and accountability with club management and members.

The historic and environmental significance of the course has been recognized by Gary and the Club and together they have researched and rebuilt native habitat for the very rare Noisy Tree Frog, have identified a range of flora and fauna, with some species previously considered to have been extinct in the region.

This conservation work has extended to a schedule of re-vegetation work that will ultimately reduce maintenance costs and produce a safer, more pleasant environment.

Gary's role as Golf Course Manager extends well beyond the boundaries of the course and his efforts as a 'neighbor' have not gone unnoticed. The club is involved with work experience and part-time job skills programs that involves schools including the Heatherwood School catering for students with learning disorders.

Links with the Croydon Conservation Society have been established and the Candlebark Indigenous Community Nursery is now established on site and provides the club with invaluable experience, training and assistance with re-vegetation work.

Gary was 'shell-shocked' with his announcement as the winner of this award and was humbled to be the winner from a stellar group of finalists and join a group of previous winners that includes: Alan Devlin; Pat Pauli; Richard Forsythe; John Geary and Mark Gahan. He is most grateful for John Deere's support of this event.

Gary also wishes to take this opportunity to thank the Club and his staff for their tremendous efforts and support and hopes that they too feel acknowledged by this award.



Construction of Wellands on the 7" hole, Nov 2001



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2002 AGCSA Graduate of the Year Award-Glenn Dawson, Federal Golf Club



Glenn Dawson with AGCSA President, Mark Couchman

A glance at my pedigree and it is any wonder that I am destined for a career in the turf industry. My father Garry did a traineeship in the 1970's and worked as head greenkeeper at the Belconnen Bowling Club from 1980 – 1984 before taking up a position as a teacher in Turf Management at the Canberra Institute of Tafe. My uncle, Shane, is the Assistant Superintendent at the Gungahlin Lakes Golf Club.

In 1998 I was lucky enough to secure a position on the groundstaff at the Federal Golf Club in Canberra under Stephen Lording, trainer of two AGCSA Graduate of the Year winners!

One year later I commenced the Certificate 3 in Horticulture (Turf Management) at the Weston campus of the C.I.T. and over the next couple years completed a number of other course that included: the ACT Workcover Occupational Health and Safety Representative Training, Chemcert Chemical User Accreditation, St John First Aid Level 2 Certificate and the Diploma of Horticulture



Construction at Federal Golf Club

Level III (Turf Management).

This additional training gave me the skills and confidence required to take on additional roles and responsibility at Federal that culminated in an appointment as Foreman.

In my short time at Federal Golf Club I have been involved in several major projects. These have included the conversion of 2 fairways from cool season grasses to Santa ana couch; the installation of 240V electrical cables and communication cables to new Toro 8000 satellite boxes and irrigation system; construction of a new bunker on the first fairway and the preparation of the course for four Federal Opens.

Designed by Prosper Ellis and located at Red Hill since 1946, the Federal Golf Club is set for changes with a \$1.5 million upgrade to the clubhouse set to start and \$1 million over six years allocated to course improvements.

In addition to significant work already completed on the course, we plan to construct five new greens, reconstruct six greens and resurface a further nine, construct a number of new tees, modify existing and construct additional bunkers and undertake additional works such as contouring and drainage.

Excessive thatch and water use, poor green speed, susceptibility to fungal diseases, low tolerance to wear and a successful 'on-course' trial has encouraged us to decide to surface the new greens with L93 and I believe that the switch from Poa annua will be pivotal to the success of the 'Master Plan'.

Academically, I have set myself a number of goals that I hope to achieve over the next

several years. I hope to attain a Graduate
Diploma in Agricultural Science (Turf Management)
from the Sydney University and also plan to
complete a Diploma of Conservation Ecology.

Looking further ahead, I wish to pursue an internship with the Ohio State University and intend to arrange 'sabbaticals' on courses throughout the world and eventually progress to an Assistants or Superintendents position at a respected golf course within Australia or abroad.

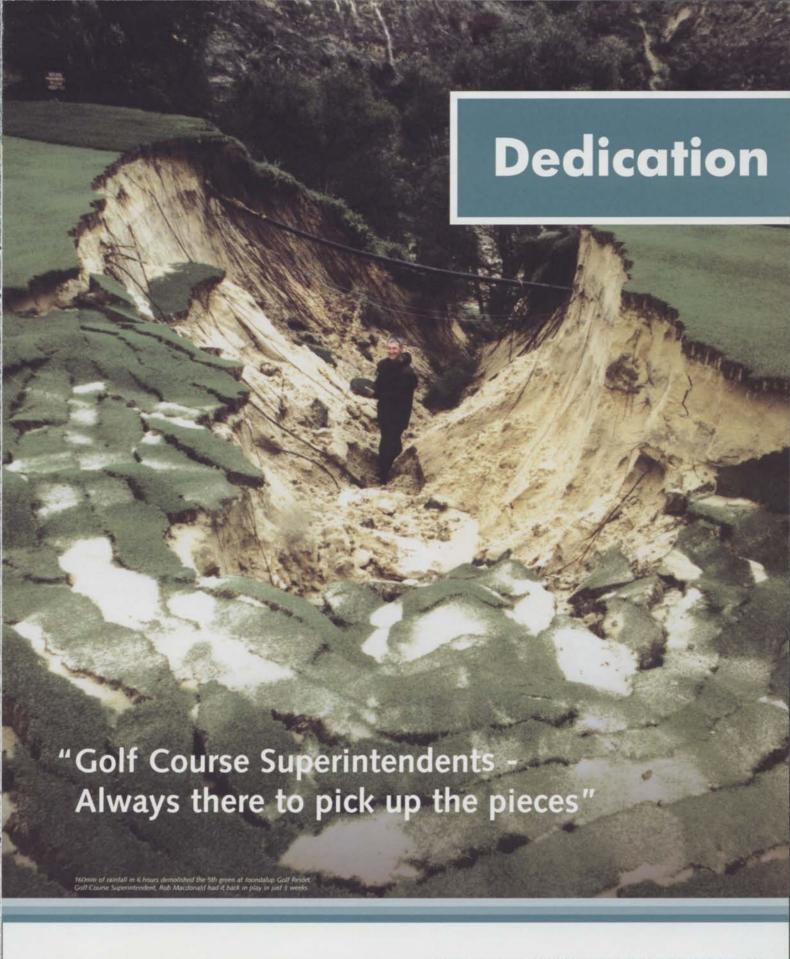
Being rewarded with a trip to the AGCSA Conference and Trade Show has given me a head start in achieving some of these goals and being named the 2002 AGCSA Graduate of the Year has been the highlight of my short career in this industry. I would like to take this opportunity to thank those people in the industry who have helped me achieve. They include: Garry Dawson and Bruce Davies from the C.I.T. in Weston; Stephen Heskett and Jason Ferry from Queanbeyan Golf Club; Shane Dawson from Gunghalin Lakes Golf Club, Scott Harris from Belconnen Magpies Golf Club and of course my excellent boss and teacher, Stephen Lording. I also owe a debt of gratitude to Dave Ramage and the rest of the staff at Federal Golf Club.

EDITORS NOTE:

The highlight of the 2002 AGCSA Awards Ceremony in Brisbane was a speech delivered by last years AGCSA Graduate of the Year, Scott Curruthers who was nothing short of inspirational in his recollections of his last 12-months (refer 'editors note', ATM Volume 3.4 page 20) and his hopes for a future in the turf industry.

I think that everyone in attendance that night took a certain comfort from knowing that the future of this industry is in such safe hands. Having had the opportunity to spend some time with this years finalists and Glenn Dawson the 2002 winner I can tell you that the same level of drive, commitment and vision also exists within this group of young men.





















AUSTRALIAN GOLF COURSE SUPERINTENDENTS ASSOCIATION

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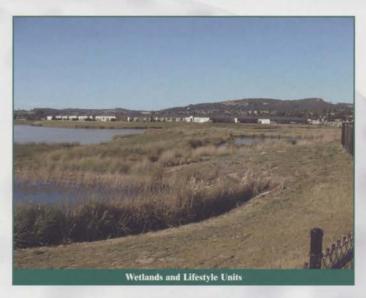
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"Waterford Valley Project"



Situated in Rowville, Victoria, the Waterford Valley Project is unique in a number of ways. Greg Rooke, Construction Manager of the project's 18 hole championship, par 72, golf course has certainly had his hands full over the last 2 years.

Greg is no stranger to golf course construction, being involved in the Kingston Links course construction and then maintenance for around 5½ years. Now responsible for the construction of the golf course component of the Waterford Valley project – the heart of the Waterford Valley community, Greg has been working with up to 20 staff during peak construction periods, as well as up to 30 contractors.

Designed by Phil Ryan of Pacific Coast Designs, the course has been under construction for just over two years, and is expected to reach completion in March 2003.

Situated between two creeks, and incorporating natural wetlands, Greg has been liaising with a number of wildlife authorities during the construction of the course. While the clear, undulating landscape had been used as farmland since the early 1800s, Greg and his team are undergoing a massive tree-planting and revegetation project to return the area to it's natural state.

One of the creeks on the Waterford Valley site is home to the Australian Platypus, and so with the assistance of the Australian Platypus Conservation Society, Greg and his team are planning work to combat creek-bank erosion, and thereby improve conditions of the platypus' natural habitat.

The pay-as-you-play golf course contains 61 bunkers, and incorporates Santa and couch on the fairways. It will also host a four star international hotel and convention centre, and feature a stylish clubhouse and pro-shop facility.

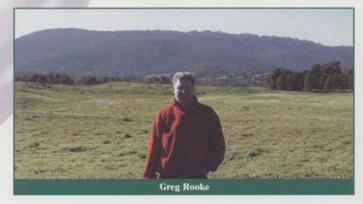
The Waterford Valley project, developed by Primelife Corporation, will include a total of around 750 lifestyle units situated in three different locations. Nestled amongst the charming golf course surrounds, residents can choose between views of the rolling golf course countryside, or picturesque natural wetlands.

A community centre is planned at the heart of each location, each one incorporating a full gymnasium, indoor pool and spas, general stores, book and video libraries, tennis courts, tai chi, yoga, as well as visiting rooms for Doctors, physiotherapists, and hairdressers.

Residents will enjoy scenic walking trails and nature reserves on their doorsteps.

With plans as grandiose as these, Greg chose maintenance equipment he could rely on. His John Deere equipment including a surrounds mower, walk-behind greens mowers, bunker rake, tractor, and rough mower, was all supplied through the local dealer, Glenmac Sales & Service, at Knoxfield, and guarantees him the utmost in cut quality, maximum productivity for value, and invaluable aftermarket service and support – taking the worry out of at least one element of this complex project.

John Deere would like to thank Greg for his contribution to golf course construction in Victoria, and our native platypus' also thank him for paying particular attention to their habitat!







18[™] AUSTRALIAN TURFGRASS CONFERENCE – 'OPEN FORUM' REVIEW

At this years conference in Brisbane there were two open forum sessions with a panel of scientists and practitioners. It is always interesting to observe the direction these sessions take, depending on the questions asked and the comments made.

What follows are a few of my observations from these sessions.

FORUM 1: Greens surface preparation -A world of ideas

- A lot can be learnt from the mistakes of others and we need to share these experiences no matter how embarrassing.
- Every golf club should have in place policies and objectives that define the course conditions and can not be readily changed by successive committees.
- Each golf course needs to set standards of surface preparation that are consistent with the available resources and the local conditions.
- Unrealistically low cutting heights and low fertility are the greatest threat to sustaining good quality putting surfaces.
- It is important to establish and maintain a healthy turf so that there is a strong grass cover to work with when preparing surfaces for special events.
- The sustainability of good quality putting surfaces will be the greatest future challenge with increasing pressures from environmental policies.
- There is still much to be learnt in the management of the new bentgrasses and ultra dwarf couchgrass varieties in order to maintain high quality surfaces.

FORUM 2: Greens Construction - What are the essential elements?

This forum did not produce an 'ideal' profile but it identified several important criteria to be considered in planning a greens construction project. These are;

- Do your homework well in advance of commencing the project.
- Test and select materials that may be suitable well before construction starts.
- Design greens that suit the local conditions.
- Ensure that the project is appropriately resourced (i.e. adequate budget).
- Select a contractor that is experienced and can demonstrate the success of previous projects.
- Utilize a consultant as a 'safety valve' to provide advise on construction type, sand selection etc.
- Make sure that there is a quality control program in place to check on materials and workmanship.
- Document specifications, quality control procedures and contract conditions.

The open forums were well attended and there were many good ideas exchanged. If there was one single statement to sum up the forums, it would be; "do your homework, plan well ahead and make sure the processes are well documented".

Latrobe University -Biotechnology Centre

Recently I visited AgGenomics, Plant Biotechnology Centre at the Latrobe University with Dr. David Huff. AgGenomics is a unit of the Victorian Department of Natural Resources and Environment and is a laboratory world leading in gene sequencing, gene identification and plant breeding.

The laboratory contains some of the most sophisticated equipment available for identifying individual genes and have the capacity to identify more than 15,000 individual genes in any one sample. Because of the quantity of data being collected, there is now a team of computer programmers trying to process all the data collected. Part of the data processing is to identify what individual genes do by comparing results with a global database.

Some of the research at Latrobe is focusing on what genes are 'switched' on or off depending on the stimulus applied. For example, when a plant is placed under drought stress, there are specific genes that are switch on/off, causing the plant to react in certain ways, i.e. the leaf may curl, and stomata may close. By identifying certain genes, it becomes possible to transfer them into certain other species in an attempt to improve characteristics such as their drought tolerance.

At present, the research program still involves conventional plant breeding techniques, however, the plant breeders can now quickly determine the success of their breeding program and whether key genes have been transferred in any crosses made.

To date the main species involved with the research has been perennial ryegrass and clover. With perennial ryegrass there has been success in discovering the genes that control flowering and how they can be manipulated. This offers the potential to produce a more palatable feed source (flower initiation tends to harden the plant) for longer periods of the year by switching off the flowering gene. When seed production is required, the flowering gene can be switched on and flower initiation allowed to occur.

The laboratory set up and the research programs involved are "mind blowing" and there is no doubt in my mind that this is the future of turfgrass improvement.





DISEASE OF THE MONTH "Thatch Collapse Fungi"

A. canina species.

During the past summer and early autumn, I have inspected a number of golf greens that were affected by the presence of Basidiomycete type fungi that cause localised Thatch Collapse. The symptoms consist of green patches, about 4 – 6 cm in diameter where the centre of the patch was soft compared to the surrounding, unaffected area. I have also observed its presence in the bentgrass trial plots at Kingston Heath GC, where its presence has been most prominant in the *Agrostis capillaris* and

The literature only provides general information on this group of fungi and the control methods are limited but what we do know is this:

 The "thatch collapse" fungi are most likely to belong to the group referred to as Lectophilic Fairy Rings. That is, fairy rings produced by fungi that colonize primarily leaf litter and thatch rather than the soil (Edaphic Fairy Rings).

- The fungi that we are seeing on the greens are most likely to be the Type B fairy rings. That is, those that stimulate grass growth and thatch degradation is apparent. Generally the plants are not severely injured and will eventually recover.
- 3. This group of fungi can become dominant, along with *Pythium spp.* and *Rhizoctonia spp.* on sterile soils, such as soil that has been fumigated. On sterile soils these fungal organisms are very quick to colonize the thatch and soil before there is a balanced population of soil organisms. That is, there are no natural antagonists to suppress their activity and therefore they can be persistent for 2 3 years until there is a gradual buildup of natural antagonists. This is often the case with fumigated soils.
- 4. The main problem associated with the presence of the fairy ring fungi is the formation of hydrophobic conditions. This is caused by the coating of the soil particles by water repellant material produced by the fungi.

- 5. The source of the inoculum (i.e. the infection agent) is most likely to be from the general environment, as fairy ring fungi occur in all turf types and pastures. The inoculum in the form of mycelium or spores is easily transported by water, wind, machinery, soil and foot traffic.
- Control is difficult with this group of fungi and most control methods employed are ones that minimize the symptoms.
 All the references recommend;
 - a. Good thatch control
 - b. Aerate regularly
 - Apply wetting agents to prevent hydrophobic conditions
 - If using fungicides they need to be well drenched into the soil.
 - e. Topdress to even out the surface
- 7. The fungicides that have proven to provide some success in reducing the symptoms are;
 - a. Azoxystrobin
 - b. Bitertanol
 - . Triadimenol
 - d. Triforine
 - e. Flutolanil

Any success achieved with a fungicide is best achieved with the following program;

- Day prior to application aerify and apply a wetting agent. Irrigate so that soil reaches field capacity.
- b. 24 hours later apply the fungicide (in a high volume of water if possible).
- After applying the fungicide water in before it dries on the leaf.
 Apply 10 – 20mm of water.
- Keep thatch moist for 2 4 weeks.

There has been little research done on the Basidiomycetes, as they are a difficult fungi group to work with. While the symptoms are unlikely to cause any permanent turf damage, the other effects such as dry patch can be quite damaging. Consequently it is important to work at minimizing the effects rather than trying to eliminate the cause.

A T M 25

TOOL TEST: Topdressing Equipment for the **Dusting of Greens and Tees**



For this edition of ATM TOOL TEST an intrepid bunch of Superintendents braved 'arctic' conditions at the spectacular Dunes Golf Links in Victoria to put three topdressing / dusting machines to the ultimate test. The sand was wet, full of sticks and stones and the wind was verging on cyclonic.

The three machines under investigation were:

- Tycrop ProPass 180
- Dakota Turf Tender 410
- Turfco SP-1530

All machines are specialized enough to apply topdressing sand at rates light enough to perform 'greens dusting' but are flexible enough for topdressing of tees and surrounds and can all be used for applications such as filling of bunkers and trenches.

EVALUATION PROCEDURE

Each of the three topdressers were assessed in a range of categories and the three evaluators were asked to provide supporting comment as justification for the scores given.

The representatives of each machine were allocated 15 to 20 minutes to explain the operation, adjustment, construction and special features of each machine and were then advised by the evaluators to set the machine up ready for 'greens dusting'. During this stage, evaluators scored each machine on 'ease of set up', 'general construction' and 'general ease of maintenance'.

Each evaluator was then required to topdress a golf green using each of the three machines and was asked to score the machines for 'usability and evenness of spread on greens'

Following this, the evaluators were given an opportunity to operate the machines in simulation of work on tees and fairways and were able to make their own adjustments to parameters such as spread pattern and thickness. The evaluators were then required to score each of the three machines for 'usability and evenness of spread on tees / fairways' and for 'versatility'.

The three 'Evaluators' were:

- · Denise Hill Symonds Golf Course Superintendent, The Dunes Golf Links
- Colin Morrison Golf Course Superintendent, Flinders Golf Club
- · Chris Grumelart Golf Course Superintendent, Cape Schanck Golf Resort

Table 1: Average assessment Scores

	Ease of Set Up and Calibration	General Construction	General Maintenance	Usability and Evenness of Spread on Greens	Usability and Evenness of Spread on Tees / Fairways	Versatility
Tycrop Pro-Pass 180	7	8.5	9	9	6	7
Dakota Turf Tender 410	8	8	8	8	9	8.5
Turfco SP-1530	7	8.0	8	8	7.5	7



TYCROP PROPASS 180

Distributed and demonstrated by Turf Link Australia, the Tycrop ProPass 180 was described as being easy to understand and operate and scored 7 out of 10 for 'ease of set up and calibration'. However, evaluators did make it clear that the requirement for a tow vehicle capable of supplying 6 gallons per minute (GPM) of hydraulic pressure would put it out of

reach for some. A 'power pack' complete with hydraulic tank, pump and portable mounting is available as an option (refer to Table 2: Vital Statistics). Although the evaluators felt that hydraulically linking the belt and spinner speed with ground speed would increase the precision and accuracy of spread, evaluators would have preferred to have the ability to change settings from the operators seat.

Of all the machines, the spinners on the Tycrop were the easiest to remove which would have benefits in clearing blockages and filling trenches etc.

Excellent marks were received for general 'construction' and 'maintenance'. Evaluators were very impressed with the Tycrop's 4 wheel walking beam suspension that delivers very low ground pressure and as one evaluator remarked "would allow the machine to track undulations". Evaluators were also impressed with the durable paint job and were unanimous in approval of the grease nipples protected under two easy to remove steel boxes that only need to be removed four times per year. Evaluators also remarked that not having its own motor would significantly reduce the maintenance required.

Of all three machines the Tycrop ProPass

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scored the highest marks for 'usability and evenness of spread' on greens but recorded the lowest marks for 'usability and evenness of spread' on tees/fairways. The work on greens was excellent with the machine capable of a very even and fine application of sand even under the extremely testing conditions.

The Tycrop did have a tendency to block up in the chute but this was a problem experienced by all machines and would be avoided if the sand could be screened. The evaluators experienced blocking problems when applying sand at heavier rates on the fairway.

This was improved when the "fingers" (device used to break up clumps of sand in the chute) were removed but evaluators were clear in the opinion that this machine was more suited to greens dusting than heavier topdressing of tees and fairways and consequently marks for 'versatility' were modest. However, consideration of the range of attachments available for this machine would improve performance in this regard.

DAKOTA TURF TENDER 410

Distributed and demonstrated by Aspac Golf & Turf, the Dakota Turf Tender 410 scored top marks for 'ease of set up and calibration'.

Evaluators were impressed with the robust and simple control panel that can be mounted with easy access to the driver and offers control over belt and spinner speed. Good marks were



also given for general 'maintenance' and 'construction'. Evaluators felt that the hopper was a good size and was low enough so as to facilitate easy filling and not obstruct too much vision.

All were unanimous in their applause of the gate on the chute that was easy to pull up and clear if the unit became blocked. Evaluators observed the construction to be 'tough' and all we impressed with the easy removal of the spinners.

All evaluators rated the 'usability and evenness of spread on greens' as good and again emphasized the good visibility and control over spread. Top marks were achieved for the Dakota's ability to spread on tees and fairways with one evaluator simply describing the performance as 'awesome'.

More specifically though, this machine displayed an ability to cope with 'lumpy' sand

and higher application rates. Not surprisingly the Dakota also received top marks for 'versatility' with evaluators seizing on it's ability to perform well on both greens and fairways and felt that it would also be suited to the broadcast of stolons and fertilizers.

TURFCO SP-1530

Distributed and demonstrated by Textron Turfcare, the Turfco SP-1530 received excellent marks for 'ease of set up and calibration' and for 'general construction'. Evaluators were very impressed with the access they had to the 'three phase' controls and found the hand-held switch controls to be easy to use and effective. The ability to actually see the sand drop from the belt onto the spinners was received well as was the extra degree of flexibility that an adjustable spinner angle added to this machine. The lip on the hopper was a good idea if operators wanted to cut down on the number of trips back to the sand pit. Evaluators were impressed with the Vanguard engine but felt that sand could get under the belt and could cause problems if not cleaned regularly. When scoring for 'usability and evenness of spread' on greens, evaluators again made mention of how easy the controls were to operate and felt that the ability to tilt the spinners and direct the sand into the ground was very effective and would probably avoid the need to water the

Table 2: Vital Statistics

	Volume of Hopper (struck) (m3)	Powered by	Weight (kg)	Controls	Materials that can be spread	Options	Warranty Conditions	Recommended Retail Price
Tycrop Pro-Pass 180	O.5	Hydraulically driven from tow vehicle. Sepate engine is optional	485	Variable floor belt Variable Spinner speed. Full manual adjustment on tailgate Positive Lock device	Sand Granular fertilizer Powders Seed	Engine Pack – 11 HP Honda with hydraulic tank and pump mounted to back of tow vehicle in transportable frame. Mount kit to fit unit to Progator, Workman or Cushman.	12 Months	POA
Dakota Turf Tender 410	0.65	11HP Honda Electric start	410	Vehicle mount control panel allowing adjustment of belt and spinner speed.	Sand Fertiliser Seed Stolons	Can be optioned to fit aboard Toro Workman or John Deere Pro-Gator. Range of spinners to suit different materials	12 Months	\$22,950 (lec GST)
Turfco SP-1530	0.6	11HP Honda Electric start	422	Adjustable spinner angle. Adjustable spinner and belt speed with remote on / off. Adjustable gate opening	Soil / sand Organic fertilizer Screened materials Stolons	Discharge chute for trench filling	12 Months	\$19,085 and ostr



sand in after application. Evaluators were very impressed with the ability of the Turfco to handle very light applications, however, of mild concern was a tendency for the machine to throw slightly heavier toward the edges but evaluators did preface these comments by saying that this was most likely due to set up and conditions.

Although more suited to greens, evaluators were happy with how the Turfco performed in the role of topdressing fairways and tees.

Blockages were easily cleared and by tilting the spinners 'up' an adequate spread width was achieved

General comments were all positive and evaluators agreed that they would be very happy to use this machine to dust greens on a regular basis.

ACKNOWLEDGEMENTS

Special thanks must go to The Dunes Golf Links for making their facility available to Australian Turfgrass Management (ATM) magazine as a venue for this evaluation. In particular, thanks to Mark Gahan, Denise Hill Symonds and their staff for their assistance and patience on the day.

Also, thank you very much to Turf Link Australia, Textron Turfcare, Aspac Golf & Turf, John Deere and B & H Machinery for their interest, spirit and participation

Finally, many thanks to our panel of evaluators who donated their time and effort under such tough conditions. 4



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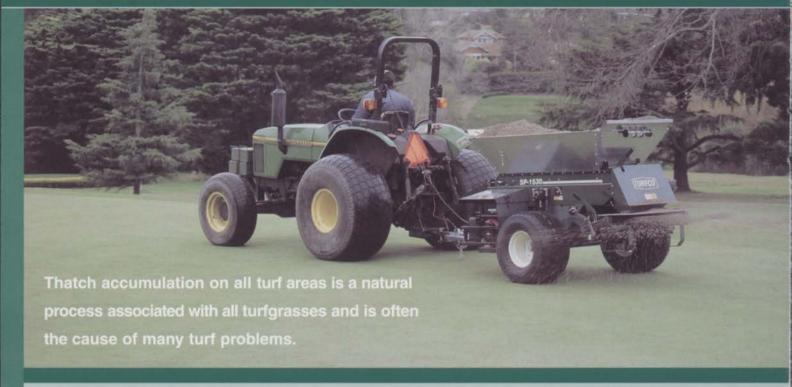
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JACOBSEN

Dusting as a Technique for Thatch Management



Thatch is defined by Beard (2002), as "an intermingled organic layer of dead and living shoots, stems and roots of grasses that develops between the turf canopy of green vegetation and the soil surface".

Some thatch is desirable as it provides a level of surface resilience that results in improved wear tolerance and increases resistance to soil compaction. However, excessive thatch accumulation will result in;

- Increased surface moisture retention.
 Thatch can hold about 4 6 times the amount of water retained in a USGA specification sand amended with peat moss.
- Softer putting surfaces that are more susceptible to foot printing.
- 3. Slower putting / bowling surfaces.
- Increased disease and insect activity
- Greater incidence of dry patch due to hydrophobic conditions.

- 6. Poor profile aeration.
- 7. Root deterioration.

With the demand for: better quality putting surfaces; reduced 'down time' resulting from turf renovations and the introduction of new bentgrasses and ultradwarf couchgrasses, not only is there is greater need to control thatch but also to introduce different thatch control techniques.

With the introduction of very high-density turf cultivars for closely mown putting greens, there is an increased potential for thatch accumulation. With the new bentgrass cultivars, the NTEP (1999) trials have demonstrated that the Penn A and G series are in the top group for thatch depth (i.e. greatest thatch depth). The AGCSA's bentgrass trials at the Kingston Heath Golf Club have demonstrated that Penn A1 has a thatch depth significantly greater than that of Pennlinks, L93 and Pencross (refer to Table 1).

VARIETY	8th-May-2002	
Penn A1	12.3	
Penn G2	10.3	
Cato	10.3	
Penn A4	10.0	
Egmont	9.0	
Penn G6	9.0	
Dominant	9.0	
Pennlinks	8.7	
L93	8.7	
SR 7200	8.7	
Penncross	7.3	
LSD (P<0.05)	2.5	

Table 1: Thatch Depth – Bentgrass trials at Kingston Heath Golf Club

Many of the ultradwarf couchgrasses accumulate thatch more aggressively than Tifdwarf: Overseas research demonstrated a

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BY JOHN NEYLAN

five-fold increase in thatch accumulation for the ultradwarfs Champion, Floradwarf, Miniverde and Tifeagle compared to Tifdwarf maintained at a nitrogen rate of 2.7kgN/100m2 / year (White, 1999).

The avoidance of excessive thatch accumulation includes preventative and curative measures such as; minimizing nitrogen applications, increasing the frequency of mowing, regular shallow verticutting, more aggressive turf cultivation techniques such as coring and scarifying and lower cutting heights, with topdressing being the most effective cultural technique (Beard, 2002).

Traditionally, the most common technique employed to reduce / control thatch has been to undertake a severe renovation, usually twice per year. This involves hollow coring and deep scarifying, usually followed by a heavy topdressing to fill the core holes and grooves left from scarifying. Recovery can be slow, particularly if the renovation is done outside of the optimum period for grass growth.

Infrequent, heavy topdressings usually result in alternate layers of organic matter and sand with very little mixing of the layers. Nickson (2000), demonstrated that this method of

thatch control did not reduce the accumulation of thatch. Considering the layering effects and minimal influence on thatch control, there has

been an increase in the practice of frequent, light topdressings, more commonly known as 'dusting'. Dusting 'dilutes' the thatch layer and



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Plate 2: Reduced disease severity on plots receiving sand dusting (Nickson, 2000)

[All adding of the second of t

Figure 1. Average of Means for Quality After Wear

Niekeen 2000

produces a firmer and more consistent putting surface. Greens that are regularly dusted have a homogenous mixture of plant organic matter and sand, that transitions relatively evenly into the rootzone sand. This results in more even moisture conditions throughout the profile, together with more uniform water infiltration and drainage.

Successful dusting programs demand that sand is applied at an amount and frequency matching the growth rate of the turf (Foy, 2000). In practical terms this involves dusting every 2-3 weeks during peak growth at an application rate of 0.06-0.1 m $^3/100$ m 2 .

Typically, the maximum rate is 0.2m³/100m² for creeping bentgrass up to 0.4m³/100m² for couchgrass greens. Nickson (2000) demonstrated that regular light dusting provided a significant reduction in total organic matter, improved turf quality and reduced the incidence of disease. (refer to plate 2 & fig1)

A successful dusting program requires a long-term commitment if layering is to be

avoided. The sand must be as dry as possible to aid even distribution and incorporation into the thatch. Modern topdressing equipment allows for low volumes of sand to be applied quickly and therefore results in minimal disruption to play (see the ATM TOOL TEST in this issue). Working the sand into the thatch can be difficult on the new high density grasses, particularly where there is a high proportion of sand particles greater than 0.5mm in the topdressing material. The new generation of topdressing machines assists in this process and a light brushing or watering to get the sand into the thatch is often all that is required.

During hot dry conditions, brushing should be avoided as this often causes leaf and stem damage that can result in turf deterioration and disease infection.

One downside of dusting is the increased wear that surface sand imparts on cutting equipment and the increased costs of maintenance that results. It has also been noted that where regular dusting is undertaken, it is

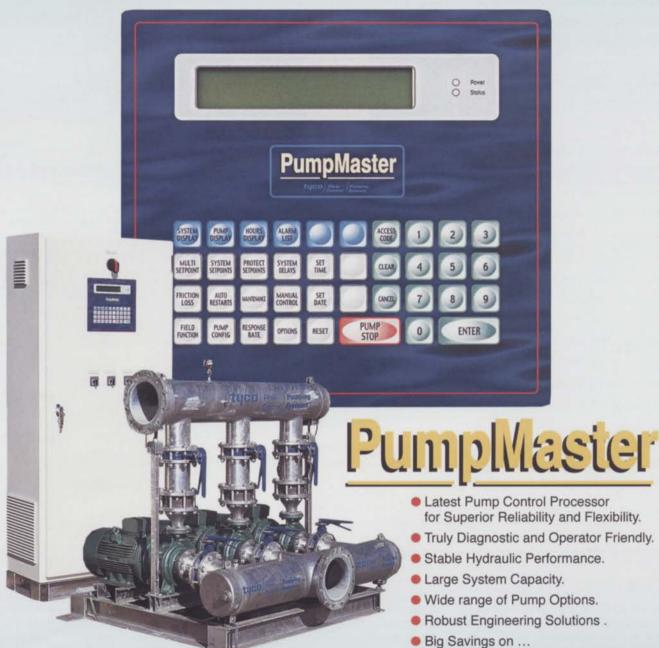
often important to make regular applications of wetting agents to avoid the development of hydrophobic conditions.

Thatch accumulation is an inherent part of turf management and must be controlled if high quality surfaces are to be produced. Infrequent, severe renovations and heavy topdressings not only do not sufficiently reduce thatch accumulation but also causes severe surface disruption and undesirable layering in the rootzone. A program of light dustings has demonstrated to be the best method of thatch control whilst improving turf and surface quality. However, it requires a dedicated commitment to the program and requires specialized equipment that is likely to also result in higher labor and maintenance costs.

John Neylan is the Manager of AGCSATech, the Technical Services Division of the Australian Golf Course Superintendents Association (AGCSA)



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Effect of a lime alternative on a cool-season golf course fairway in south-eastern Victoria

Topdressing with limestone to reduce soil acidity is a common maintenance practice used by the turfgrass industry in south-eastern Victoria, the beneficial influences of which have been well documented. Common liming materials include calcium carbonate (calcite), calcium and magnesium carbonate (dolomite) and calcium sulphate (gypsum). In recent years various manufacturing by-products, from the steel, paper and pulp industries, that have included furnace slags and sludges, fly ash and paper mill lime-sludge have been used as alternative liming agents. One such source is waste lime sludge; a byproduct of the re-caustizing process within the Australian Paper Mill located at Maryvale, Victoria. The objective of the study was to compare the performance of waste lime sludge, when applied as a topdressing to a golf course fairway turf, with commercial limestone for differences in nutrient level status, soil pH, total soluble salts, turfgrass shoot growth and quality.

MATERIALS AND METHOD

Research field plots comprising *Poa annua* L. (annual bluegrass)-*Lolium perenne* L. (perennial ryegrass)-*Agrostis tenius* L.(Victorian creeping bentgrass)-*Festuca arundinaceae* L. (tall fescue), and *Cyndon dactylon* L. (bermudagrass) were located on a fairway at the Moe Golf Club, Moe, approximately 135 km east of Melbourne, in the Latrobe Valley, Victoria.

The soil type was a clay loam of pH 5.4. Soil test analysis (dilute acid extraction) indicated that the available P and K were approximately 265 and 190 mg/kg. respectively.

The experimental design was a randomised block design, of three replications and two



treatments (waste and commercial lime) applied at the rates of 0, 10, 20, 30, and 40-kg. per 100sq. m. in January and again two months later. Fairway vegetation was mown prior to each application and the treatments irrigated in with 15-mm of water. No herbicide or fungicide was applied throughout the duration of the trial. Data was collected on shoot growth and turf quality, which were taken monthly.

Gribbles Analytical Laboratories, of Notting Hill, in Victoria, undertook soil nutrient analysis, soil pH (water), and total soluble salts every other month. Analysis of variance of all data used the Mini-tab statistical analysis package and the data compared with LSD at the 0.05 level of significance.

RESULTS AND DISCUSSION

* Turfgrass vegetative growth

Total yield of the annual bluegrass-perennial ryegrass-Victorian creeping bentgrass-tall fescue-common couch sward was significantly higher with the waste lime treatments compared to the commercial lime treatments. Turfgrass growth consistently increased by surface application of waste lime over the duration of the trial.

This area of turfgrass showed an approximately one third yield increase when surface applied with waste lime compared to the commercial limestone treatment and the un-limed control.

Although there were differences in total yield, vegetative growth declined over time particularly at the higher lime treatments. It is suggested that the yield differences may be attributed to the higher amounts of potassium and phosphorus in the waste lime treatments (Table 1).

Table 1. Selected chemical analyses for commercial and waste lime (after Gribbles Analytical Laboratories, 1999)

Elements C	Commercial limestone (mg/kg)	Waste lime (mg/kg)
_		_
Calcium	430000	360000
Iron	1200	1500
Magnesium	96000	11000
Phosphorus	88	460
Potassium	30	1300
Sodium	90	220
Aluminium	190	1900
рН	9.6	11

* Soil pH

By the conclusion of the trial, the pH had increased to 5.6 on the control treatment, and to within the range of 5.9 to 6.0 for the commercial lime soil and 6.5-6.7 for the waste lime soil. The existing sward continued to grow at these higher soil pH values. Both commercial and waste lime increased soil pH, with the waste lime treatments demonstrating larger increments with increasing rates of application.

Results taken at 75 and 115 days following the first application of commercial lime indicate that there was no significant difference between application rate and soil pH when compared to the non-treated control. However there was a significant increase in soil pH and application rate with the waste lime treatments.

D.E. ALDOUS (1) AND D. BALFOUR (2)

Application rates of 20 through 40-kgs. per 100 sq.m. showed a significant increase in soil pH from pH 5.6 to 6.3 in the first 75 days. It is suggested that the higher levels in pH recorded on the waste lime plots may have attributed to the higher total yield rates. With pH levels moving into the 6.5 range, in which overall nutrient availability is highest, certain minerals such as phosphorus, potassium, sulphur, calcium, and magnesium, become more available. Waste lime was also more effective at neutralising soil pH than commercial limestone.

After 115 days, there was a change of 0.6 of a pH unit, with the agricultural lime treatment, whereas waste lime caused a change of 0.9 of a pH unit over the same time.

* Mineral composition

The soil profile was analysed for eight major and minor elements, with an analysis of variance run on each element to determine the effect of rate on the limed and un-limed plots.

There was no significant difference between sulphate and iron and application rate for either the waste or commercial lime treatments. Calcium levels were significantly different for both lime treatments when compared to the un-limed control, at all levels of application after 115 days. Calcium dominates as an available nutrient in both products (Table 1).

Magnesium levels lacked significance when compared to the product, rate, and the un-limed control. A high magnesium level was reported with the commercial limestone treatment when applied at 30-kgs. per sq.m.

after 75 days, but this was not sustainable.

Potassium and phosphorus levels were not influenced by rate or product type when compared to the un-limed control. Phosphorus levels declined with both limestone sources, irrespective of rate when measured on day 115. Sodium levels increased significantly with the rates of waste lime particularly when measured after day 115.

There was a lack of significance between rate and days tested from application with the commercial lime treatments and the un-limed control. Aluminium levels increased with the application of both lime products, particularly at the higher rates of application of waste lime.

* Total soluble salts

Applications of commercial limestone provided for small increases in total soluble salts, whilst waste lime showed larger increases, especially at the higher application rates. There were significant increases in total soluble salts for the higher rates of waste and commercial lime treatments (40-kgs. per 100 sq.m.) tested on the 115th day after application, compared to the un-limed control.

Particle size and particle size distribution of commercial and waste lime.

Two important factors determine the effectiveness of limestone in reducing soil acidity; chemical purity (oxide equivalent) and particle size. Table 2 shows the particle size and particle size distribution of the commercial and waste limestone products.

Table 2. Particle size and particle size distribution for commercial and waste limestone (after Gribbles Analytical Laboratories, 1999)

Sieve (mm)	Cumulative Passing (%) Commercial Lime	Sieve (mm)	Cumulative Passing (%) Waste Lime
2.36	100	2.36	100
1.18	99	1.18	99
0.6	80	0.6	98
0.3	62	0.3	98
0.15	48	0.15	97
0.075	37	0.075	96
0.078	37	0.063	95
0.058	34	0.045	91
0.041	27	0.032	84
0.029	23	0.023	78
0.021	17	0.017	69
0.015	16	0.013	57
0.011	16	0.009	44
0.007	16	0.007	36
0.005	16	0.005	26
0.004	15	0.003	20
0.003	10	0.002	16
0.002	4	0.001	7

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Adopting the correct nutritional regime at renovation is crucial in order for areas to recover as soon as possible. Common practice is to use a high potassium fertilizer to effectively 'harden' turf prior to the development of stress. This practice can in fact lead to both positives and negatives.

If the soil is not exhibiting low levels of potassium >300ppm) the need for the addition of further high levels of K can result in induced magnesium deficiency as a result of fluxury consumption. This is the tendency for plants to excessively take up potassium and so cause an undesirable Mg/K ratio (optimal ratio is 7:1 to 15:1).

Often no regard is paid to this and high potassium fertilizers are applied as a matter of course. This policy can also lead to the suppressed uptake of calcium, manganese and ammonia.

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Multigreens High K-12-0-36 is the only greens grade product (0.7-1.4mm) in Australia possessing both controlled release N and K). In trials in the ACT this has given longevities of 10 weeks when applied at 2kg/100m⁴.

If you want to use solubles two options are available. The first is 100% soluble technical grade potassium nitrate 13-0-38. Atternatively you can use 12-0-36+1.2% Mg (100% soluble).

Magnesium

An alternative magnesium source to Epsom salts is magnesium nitrate, which although also being highly soluble is three times more effective at entering the plant. This means that for applications to well drained areas such as greens leaching will still occur but up to three times more Mg will enter the plant. The result: A better looking turt, saved money and less labour.

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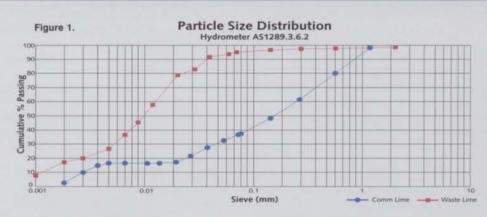


Figure 1.

Particle size distribution against cumulative percent passing for commercial and waste limestone.



Figure 1 and Table 2 show that waste lime produces a finer particle size and particle size distribution than commercial lime in that at a sieve size of 0.15mm, 48 percent of the commercial lime had passed through, compared with 97 percent of waste lime. Waste lime shows great potential as a fast acting lime source compared to the commercial lime It is suggested that the particle size of the waste lime may be a deciding factor in making the product more available with the smaller particle size reacting faster than that of the commercial lime.



Stock pile of waste lime at Australian Paper, Maryvale Mill

CONCLUSIONS

Waste lime treatments increased total turfgrass harvest yield when compared with the commercial limestone treatment and the un-limed control. Although there were differences in total yield, vegetative growth declined over time particularly at the higher lime treatments.

It is suggested that this difference in total yield may be related to the particle size of the limestone treatments, with the finer ground waste lime product becoming available earlier than the coarser particles of the commercial limestone. With the significant increase in soil pH with the waste lime treatments, it is suggested that more nutrients could become available earlier for growth and development.

Concentrations of calcium, magnesium, potassium, phosphorus, sodium, and aluminium were increased by limestone application when compared to the un-limed control.

There were no significant differences between the limed and un-limed treatments for iron and sulphate. Despite some indications of rising total salt levels, and possibly sodium and aluminium accumulation resulting from the use of waste lime, there was no significant difference in turf quality.

Further information on the project may be obtained by contacting Dr David Aldous on telephone (03) 9250 6800, fax (03) 9250 6885 or e-mail: daldous@unimelb.edu.au. A paper on this project was presented at the 9th International Turfgrass Research Conference Meetings in Toronto, Canada over 15th-21st July 2001.

ACKNOWLEDGMENTS

The authors are grateful to Hunter Richardson, Manager, Cleanaway Technical Services Maryvale, and Australian Paper Maryvale, for making available the product for test. Mention of product names is for identification purposes only and does not imply a warranty or endorsement to the exclusion of other products.

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GCS at the Moe Golf Club but is now employed by
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BEST WOOLAWARE K	13	0	24	Fe	Standard	TRIKOTE	57%	22.7kg	2.5-3.5kg	A high Potassium fertilizer with 5% Iron for use on Fairways Tees and Sportsfields
BEST UFLEXX STD	46	0	0	S,Ca, Mag	Standard	UFLEXX	100%	22.7kg	0.5-1.0kg	Stabilized Urea Nitrogen highly soluable. Can be applied as Granular or Liquid form
BEST GREENSKOTE18	18	1.3	14.9	+TE	Micro	POLYON	75%	22.7kg	1.5-2.5kg	A premium micro-sized slow release greens fertilizer with 25% slow release potassium
BEST N K GREENS	20	0	20	Fe,S	Mini	UMAXX	80%	22.7kg	1.5-2.5kg	A soluble mini sized slow release greens fertilizer with a 1:1 N to K ratio
BEST HI K GREENS	15	0	28.6	S	Mini	UMAXX	98%	22.7kg	2.5-3.5kg	A high potassium mini sized slow release greens fertilizer
BEST HIGH N GREENS	30	1.3	6	+TE	Mini	UMAXX	80%	22.7kg	1.0-1.5kg	A high nitrogen mini sized slow release greens fertilizer for general maintenance.
BEST MAXX START	16	10	10	S	Mini	UMAXX	55%	22.7kg	2.5-3,5kg	A mini sized slow release starter fertilizer for use on greens & closely mown areas
BEST SUPER K	0	0	41	S	Micro	POLYON	98%	22.7kg	0.5-1.5kg	Polymer coated potassium for use on greens
BEST UMAXX MINI	46	0	0		Mini	UMAXX	98%	22.7kg	0.5-1.0kg	Stabilized Urea Nitrogen highly soluable. Can be applied as Granular or Liquid form

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"Wongoonoo Patch", a new disease of buffalo grass



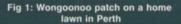




Fig 2: Grass root showing dark lesion inside the root (black line)



Fig 3: Sexual stage (perithecium) of G. Wongoonoo bearing spores within.

Buffalo grass (Stenotaphrum secundatum), also called St Augustinegrass in the United States, suffers from a number of patch diseases (Smiley et al. 1992), the most common of which are brown patch and spring dead patch.

In the last 4-5 years, a patch disease has been observed on home lawns in Perth, Western Australia, on the buffalo cultivars ST 1191 and Velvet™ Symptoms are patches of unthrifty grass, exhibiting yellowing of the leaves, stunting and eventual death of the runners, especially in the centre of patches (Figure 1). Patches enlarge irregularly and may exceed half a metre in diameter.

Adequate watering and application of nitrogenous fertilisers tend to reduce the disease symptoms and may account for the absence of the disease in turf farms, where high moisture

and nitrogen levels are maintained.

When diseased samples were submitted to turf diagnostic laboratories, various root-rotting fungal pathogens such as *Rhizoctonia solani* (cause of brown patch) and *Pythium* spp. (cause of pythium root rot) were isolated from diseased roots. This article reports on the discovery of the fungal cause of this new disease of buffalo grass, which has been described and named *Gaeumannomyces* wongoonoo (Wong, in press).

The species name "wongoonoo" is an Australian Aboriginal word for grass (Papps, 1965). The new disease has also been given the name "wongoonoo patch" to distinguish it from "take-all patch" of turf grasses caused by the same genus of fungus but a different species, Gaeumannomyces graminis.

DISEASE SYMPTOMS ON THE ROOTS

When the roots of the diseased buffalo grass are washed clean of soil and examined with a hand lens or under a dissecting microscope, the most obvious symptom is the dark coloured roots. Closer examination shows that the dark brown discolouration occurs as a line in the centre of the roots rather than occurring throughout the root (Figure 2). This symptom is also characteristic of roots with take-all patch disease as seen on the roots of bentgrass and hybrid couch roots (Wong & Tan 1999). Dark brown fungal threads are also often seen on the surface of the roots but these are not diagnostic as other fungal pathogens such as Rhizoctonia solani and Drechslera spp. (cause of black helmo) also produce these brown threads.



DISCOVERY OF A NEW FUNGUS

Isolation of fungi from the diseased roots into pure culture resulted in obtaining such fungi as Rhizoctonia solani, Gaeumannomyces graminis var. graminis (a relative of the take-all fungus, which causes a root-rot of buffalo grass in the United States), Drechslera spp. and an unidentified dark brown fungus. Cultural studies on this last fungus in the laboratory showed that the fungus produced a sexual stage (Figure 3) different to any known fungal species. It was found to be similar to the take-all pathogen and was described as a new species, Gaeumannomyces wongoonoo.

CONFIRMING THE CAUSE OF THE DISEASE

To determine whether Gaeumannomyces wongoonoo is the cause of the disease, pathogenicity tests were conducted in pots in a temperature-controlled glasshouse (25-30(°C) with healthy ST 1191 grass. The agar cultures of the fungi to be tested were placed below the soil surface in three separate pots and three healthy runners (about 3 cm long and bearing one node)

of buffalo grass were placed in contact with the agar cultures. There were also three pots without the test fungi to serve as controls or comparisons. The pots were watered daily and fertilised monthly with 1/2 strength Thrive® liquid fertiliser.

A month after the start of the experiment, only the three pots inoculated with Gaeumannomyces wongoonoo showed symptoms of leaf yellowing and severe stunting of the runners (Figure 4). Grass in the control pots as well as in those inoculated with the other fungi was healthy and green.

The affected grass continued to show chlorosis and stunting throughout the experiment. At the end of 3 months, one plant in each pot had died and the average length of the diseased runners was only 11cm compared to 69 cm in the healthy controls. When the root systems were observed under the dissecting microscope, only plants inoculated with Gaeumannomyces wongoonoo showed the typical disease symptoms in the roots.

Re-isolation from these diseased roots yielded the original fungus. This, then, confirmed that

Gaeumannomyces wongoonoo is the cause of the disease. It is interesting that the Gaeumannomyces graminis var. graminis isolates tested in this experiment were not pathogenic to buffalo grass, because in the United States, this variety has been associated with a St Augustinegrass root rot (Elliott et al. 1993).

CONTROL MEASURES

There are no known control measures for wongoonoo patch at this stage. Fungicides that suppress take-all patch such as Bayfidan® and Banner® may prove to be effective since the pathogen is a close relative of the take-all patch pathogen. Regular watering and fertilising with nitrogen fertilisers may reduce symptoms and aid in recovery of the grass, especially if a fungicide is later found to be partially effective. Root pathogens are difficult to control at the best of times and cultural practices, which promote the health and vigour of the grass, could assist in suppressing the disease.

ACKNOWLEDGEMENTS

We thank Messrs Jyri Kaapro, Brad Keen, Lowan Turton and John Walker for assisting in various ways.

(i) NSW Agriculture, Organic Waste Recycling Unit. Locked Bag 4, Richmond, NSW 2753 (ii) Sports Turf Technology Pty Ltd, P. O. Box 91, Como. Western Australia 6152.

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Fig 4: Left: Inoculated with G. Wongoonoo

Right: Not inoculated with G. Wongoonoo







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GCSAQ

Well I hope everyone had an enjoyable and educational time at the Brisbane turf conference? There was plenty for everyone and in my opinion it was a resounding success. The highlight for me was the appearance of Dr. Joe Vargas as Elvis at the conference dinner proving that you can be a world renowned expert on turf diseases and still have a healthy sense of humour. I actually thought it was Mark Couchman doing the impersonation but couldn't figure out how he got changed so quickly.

The wide variety of speakers and subjects gave plenty of opportunity to tailor your conference sessions to your needs and get the most out of the experience. Congratulations are due to Euan, Fiona and Kellie on their organisational skills and stamina for lasting the whole week, John Neylan and Phil for their efforts through the whole week and Mark Couchman and the board for providing an innovative and successful event.

Meanwhile, as Queensland has been in recovery mode after the biggest turf show here this century, we have been experiencing very dry, cold conditions with Stanthorpe hitting -7 just in time for our Bus Tour to the Granite Belt.

We took a bunch of hardy souls on a 3-day trek to visit Warwick, Stanthorpe and Tenterfield and sample the delights of golf in arctic conditions. The sponsors of the trip were Jacobsen, Textron and Nuturf and their support is gratefully acknowledged. The educational side of the weekend was provided by representatives of the companies followed by a round table discussion on contracting, budgets for different levels of golf courses and the state of the industry.

Up coming events are the August AGM and Toro Golf Championships at Kepperra Golf Club and the launch of the Code of Practice for Noise on Golf Courses. We are also waiting for the release of the Queensland Secretary Managers Association Manual of Work Place Health and Safety for Golf Courses sure to provide some valuable resource material.

There have been plenty of comings and goings over the last few months, Colin Thorsburn has left the Glades Golf Club to take on Denaru in Fiji as Superintendent, Stuart Lang has left Long Reef in Sydney to take on Royal Pines Resort, Scott McKay is back in Brisbane and was doing some projects of his own before suddenly being employed at Hope Island Resort with Andrew Baker. Anyway, look forward to

next year's conference in Adelaide where Martyn Black will be delivering a presentation on building friendship with our Northern neighbours.

Jon Penberthy President, GCSAQ

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NSWGCSA

Dry and frosty conditions for many areas at the moment in New South Wales.

Tuesday 2nd of July saw many records broken, with even coastal courses having a 'blanket frost' which some 'surfers' say they have never seen before. Needless to say lots of 'beanies' and gloves are coming out of the mothballs. The feedback I am

receiving regarding the recent conference has been 'all good', with the AGCSA getting many pats on the back for the way the whole event was organised. On behalf of the members of the NSWGCSA who attended a big thank you to all involved in the managing of this most important event and we look forward to Adelaide in 2003.

Jon Penberthy and I are available for any singing assignments however; we don't expect a flood of enquiries.

Two important events on our state calendar in the near future are: 29th July our annual Cypress Lakes Golf Day in the beautiful Hunter Valley, host superintendent and inimitable Merv Heywood. It is possible that the frost will be so thick for our 7.30 hit off that figure skating could be more practical than golf (Merv has got the figure).

Our AGM is to be held at Ryde Parramatta Golf Club on Thursday 29th August, host superintendent Jeff Phillips. I ask all members to make the effort to attend as there are many important issues to discuss.

The bentgrass trials are up and running at Castle Hill Country Club and I am sure there will be some interesting observations to be made over the next 2 years.

In closing I would like to thank our treasurer Craig Easton for his effort in putting together the Pesticide Application Logbook, which is being distributed free of charge to our members.

Martyn Black President, NSWGCSA

VGCSA

This report has been completed directly after the 18th Australian Turfgrass Conference held in Brisbane. From a personal perspective and the view of many Supers I have spoken to, I would like to congratulate the AGCSA on a week that was extremely well-run. The content was relevant, current and enlightening with the added bonus of the weather, culminating into a great week. I would also like to congratulate all the award winners and in particular, Gary Bass from Croydon Golf Club in Melbourne who won the AGCSA Excellence in Turf Management Award.

On the local scene, The Heritage Golf and Country Club provided the VGCSA with a beautiful setting for our fundraising Turf Research Day on May 28th. Early fog made for an interesting shotgun start but eventually the sun broke through to reveal the course superbly presented. A full field enjoyed the day immensely and a number of great scores capped the day off. Our thanks to Course Superintendent, Sam Myott and his team along with sponsors, Glenmac, Globe, Anco and Rainlink.



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As stated in the previous issue, the country meeting this year is being held at Shepparton Golf Club on August 19th and will feature a number of weekend activities yet to be finalised. The meeting on Monday will be supported by Nuturf with Paul Spencer giving a presentation on "Plant Nutrition and the Impact of Water Qualify on Turf Management".

I believe the format for the Shepparton meeting will provide a variety of fun and information so I encourage our metropolitan members to support the country guys and offer an invitation to non-members to come along to this meeting and see what we're all about.

Michael Picken VGCSA President



SAGCSA

A number of Golf Course

Superintendents and other turf managers from the south made the trip north to the Brisbane conference and all the feedback that I have received has been extremely positive with many supers indicating that it was the best turf conference they had been to. Congratulations to Daryl Sellar who won the AGCSA Golf Championships for the second time running. Daryl, the pressure is on for next year!

Sponsored brilliantly by Nuturf, our AGM was held at the Glenelg Golf Club on the 6th June. Nine holes of golf was followed by a course inspection with Golf Course Architect Neil Crafter on hand to answer questions on a bundle of upcoming construction work.

Office bearers for 2002-03 were elected and they are:

- Peter Harfield President
- Steve Walsh Vice President
- Brian Cooper Secretary
- Steven Newell Assistant Secretary
- Daryl Sellar Committee
- Mal Grundy Committee
- Ivan Swinstead Committee

The three new committee members replace Rob Millington, Shawn Stanfield and Steve Pellet who have all made significant contributions to the committee. Steve Pellet is recovering from a serious accident at work and we all wish him a speedy recovery.

Peter Harfield President, SAGCSA

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GCSAWA

I expect many of you are thankful for the first winter rains and the consequential flush of new growth. With the golf season well and truly under way, many clubs are approaching the pennant season and club championships.

Western Australia was fairly well represented at the recent 18th Australian Turfgrass
Conference in Brisbane. A good contingent of full and trade members attended and the AGCSA are to be commended on a great event. The conference was one of the best I have attended for educational content and the overseas speakers, particularly Joe Vargas, certainly presented some different thoughts on several key subjects. A special mention for the WA golf team of Allan Devlin, Michael Healy, Tony Johnstone, Craig New and Alan Redmayne who managed a 3rd place finish in the teams championship. Michael Healy also won the best net prize with a fine round of net 70.

Special congratulations to Jeff Austen from El Cabballo Resort who was selected as the winner of the 2002 AGCSA Claude Crockford Environmental Award. I'm sure you will all

Brad Sofield at Melville Glades recently hosted the WA State Amateur Championships. The presentation of the course for the event was first class and prompted many players to pass complimentary remarks onto the organising committee. It was a shame that the first days play was washed out due to nearly 4 inches of rain and it was a credit to Brad and the boys that they were able to get the course playable for day 2. It was great to see a strong contingent of WA Superintendents competing in the event. Rounds 4, 5 and 6 of the Super Series have been completed with Geoff Kirk winning round 4 and Steve Burke storming home in rounds 5 and 6, the handicapper is watching you closely Mr. Burkel

I believe the national association, in conjunction with the states, is really starting to make progress in many areas. The history project work has been completed by History Smiths and we now at least have a document that can form a base for further research and investigation. The national history is also complete and will be published in some form in the future. A joint membership promotion brochure is being designed and will be targeted for circulation to Secretary Managers, Committees and groundstaff. The promotion of the profession project is also well under way with adverts having been run in Australian Golf Digest, Golf Magazine, Golf Management News and ATM. Further adverts are planned in the future.

Allan Devlin President, GCSAWA

TGCSA

The AGCSA should be holding their heads high, after a very successful and enjoyable Turf Conference. The educational content was world class standard and the Trade Show 'brilliant".

As a consolation for the Tassie Supers, Sports Field Managers, the TGCSA will be holding a 'Turf Mini Conference' on or about 25th – 26th August. The idea of this seminar is to bring a little of the National Turfgrass Conference to you "our members'. The two-day seminar will incorporate Bowls, Cricket and Sports field management. One or two day registration will be available for flexibility purposes.

The AGM will be incorporated into the seminar as well as a Conference Dinner, 9 holes of golf and lots of prizes and trophies.

Registration forms will be sent out pronto. See you there.

Phil Hill President, TGCSA

[AFA]

TGAA (Vic)

As the winter sets in the time for reflection and projection begins. Have I done enough to help my turf surface stand up to the rigors of cold wearing conditions? What will the level of spring renovation be?

The answers will be revealed in your performance indicator checklist that you compiled following the talk Tony Ware gave at the cricket wicket seminar last year. A history of your surface will be documented and the fruits of your hard work will be evident on the final score for the different categories on your KPI chart. The beauty of this method of self-appraisal is that you can get anyone to assess the surface and you can cross check the results as perceived by the different assessors.

For the continued advancement of your surface this is a simple way to keep tabs on your progress.

The national conference TGAA stall was well received again and we thank the AGCSA for their continued support of all sectors of the industry. Simones voice went on the way up on the plane so us boys could finally get a word in! The general turf stream was 'standing room only' in all sessions and the speakers were of the highest quality. Chalk in Adelaide for next year. The 'Croweaters' are wonderful hosts and Jamie from Footy Park has promised to turn on a tour to end all tours.

Following our highly successful cricket wicket seminar at Colonial Stadium our next meeting will be the AGM. We are gunning for August 27th at the Melbourne Zoo from 1.00pm. As usual the theme will be water and the Zoo staff will discuss their forthcoming

\$4 million water recycling initiative.

I thank the committee for their tireless work and wonderful support. A fine and talented group.

We need some other keen people to help on the committee so I encourage you to come and take part in your TGAA.

Thank you for reading this column. I have enjoyed compiling it and if you have learnt a little then the time-spent reading has been worthwhile. Now pick up the phone and call Simone on 9842 6392 to become a valued member

Robert Savedra President TGAA (Vic)

TGAA, (ACT & surrounding region)

The start of a new financial year comes with mixed emotions for many turfies with budgets and audits. I only hope that it has been as pleasant as possible for you.

There are particular greenkeepers in the district who have made outstanding achievements recently & have been duly recognised for it.

Firstly the ACT Turf Grass Association of Australia would like to congratulate Gary Willis. Gary has been inducted into the 14-person lawn bowling squad to travel to Manchester to compete in the XVII Commonwealth Games. Gary has been a greenkeeper for 12 years and is currently working for the Tuggeranong Valley Rugby Club under the watchful eye of grounds manager Chris Webster. Gary has a long bowling career spanning more than 15 years & is excited at the challenge of reaching the pinnacle of his chosen sport; all the best Gary.

At the recent AGCSA Turf Conference & Trade Show in Brisbane, Glenn Dawson from Federal Golf Club in Canberra was awarded Graduate of the Year for 2002. Glenn gave an excellent presentation together with 11 finalists, three of whom were from the Canberra/Queanbeyan district. Well done Glenn & congratulations to Steve Lording, golf course superintendent at Federal Golf Club.

Another local greenkeeper who attended the conference & was also a finalist in the graduate of the year award is Andrew Wheatley from Queanbeyan Golf Club. Andrew is the proud winner of the ACT TGAA - Nuturf Study Award for 2001/2002. All expenses for Andrew's trip to Brisbane were paid as part of the prize. Andrew, having recently completed his apprenticeship has since travelled to Canada & is currently working there as a greenkeeper. We are sure he will find this to be a rewarding & valuable experience.

Till next time, agrostologists.

Justin A K Haslam.

Committee, TGAA (ACT & Surrounding Regions) &



Legends who have helped make the sport great.







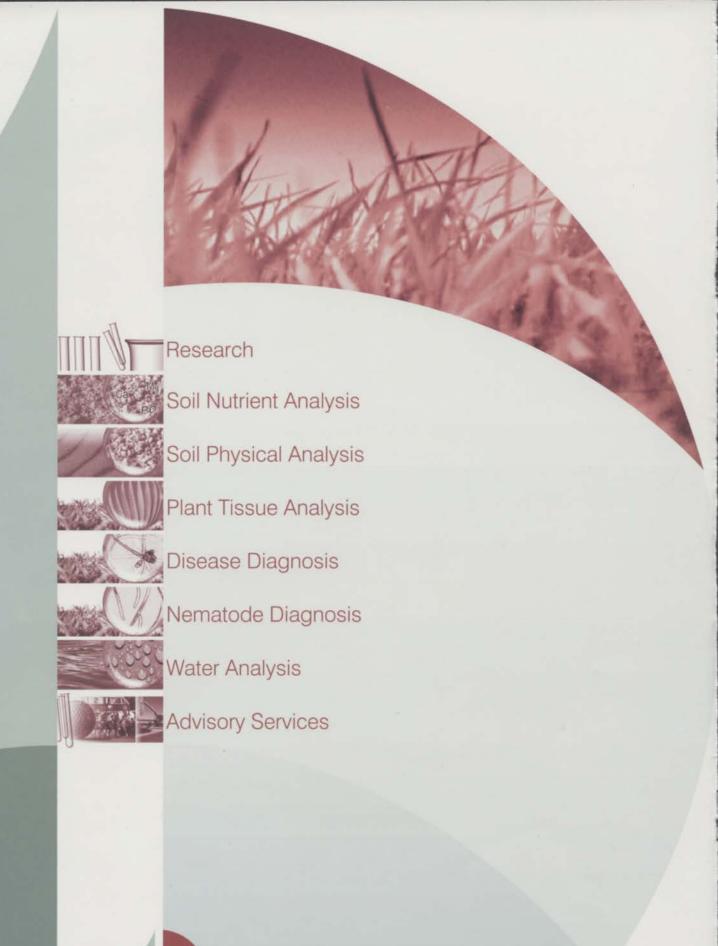






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