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Turfgrass

VOLUME 7.3 JUNE-JULY 2005

MANAGEMENT

Environmental Management Special

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COVER: Rich River Golf Club

The par 3 8th on the East Course at the Rich River Golf Club, which plays host to the 2005 AGCSA Golf Championships during the 21st Australian Turfgrass Conference in Echuca-Moama.

Photo: Brett Robinson

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an agent of change

Welcome to this edition of Australian Turfgrass Management magazine. Volume 7.3 marks my two-year anniversary as editor (please, no presents necessary) which has given me cause to reflect while putting together this edition over the past month.

I entered the industry at a time when the issue of environmental management was becoming more and more prominent. Of course, the issue exploded in September 2003 when the NSW Land and Environment Court handed down its landmark ruling against Warringah Golf Club.

Slowly but surely that verdict has set in motion a trend towards change. Superintendents and turf managers have been forced to take a probing look at their operations, procedures and policies and how they impact on the environment; and all this at a time when there are other critical issues to contend with, none more so than water management and water quality.

ATM recognises the complex environment in which the modern day superintendent and turf manager operates and takes seriously its role in helping the industry improve its environmental management practices.

ATM extensively covered the Warringah verdict and its far-reaching ramifications, and in subsequent editions has continued to track the progress the industry is making in its bid to become an environmental champion. In this edition we continue that push with a special 16-page focus on environmental management.

The cover story looks at the findings from the initial environmental assessments conducted last year on 30 NSW golf courses by the NSW Department of Environment and Conservation. While the assessments were intended to provide a snapshot of the clubs' environmental performance, some of the findings make for stark reading.

This is the first of a two-part feature and in future editions we will highlight the positives to come out of these assessments and how superintendents are successfully meeting the challenges of improving their environmental responsibilities.

Complementing the cover story, former EPA investigative officer turned environmental consultant Terry Muir outlines some of the trends to emerge from environmental audits his company has conducted. The overriding theme is that while the challenges and expectations of superintendents are significant, so are the opportunities to improve and make a difference.

The final feature in the environmental special looks at the recent report released by the GCSAWA which provides a series of recommendations for improving the waste and resource management of golf courses in the Perth area. Believed to be an industry first, this report highlights the excellent work being conducted by the GCSAWA and its commitment to improving industry standards.

This edition also doubles as the official guide for the 21st Australian Turfgrass Conference, which heads to Echuca-Moama in the second week of June. The 15-page guide has all the information you need to survive conference week on the Murray River, including a profile of Rich

River Golf Club superintendent Andrew Johnson, who will host the 2005 AGCSA Golf Championships.

Enjoy the read and I look forward to catching up with you all in Echuca-Moama.



Brett Robinson
Editor

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With the Australian turf industry set to gather in Echuca-Moama for the 21st Australian Turfgrass Conference, I thought I would focus on the other unique industry-wide AGCSA initiative which, as far as we are aware, is the only one of its kind being undertaken by any national association in Australia.

The golf industry is characterised by a growing awareness of the environment and its protection and environmental credibility is now a major factor in course management.

Our Environmental Committee's mission is to protect the environment and assure a sustainable golf industry through resource conservation and the adoption of best practice environmental management. The AGCSA is committed to improving the industry's environmental performance. Our aims include:

- The provision of a framework for continuous improvement in the environmental performance of golf clubs;
- The development of robust mechanisms by which environmental impacts and environmental compliance can be measured, monitored and reported;
- Improving the industry's image among regulators, the golfing public and the general community;
- Raise the environmental awareness of all our members; and
- Develop a program of environmental self-regulation in close partnership with regulatory agencies.

Over the past two months the AGCSA, in conjunction with the Australian Golf Union, has

conducted a series of chemical spill exercises. These have been conducted in 14 regional and metropolitan locations around the country and educated nearly 600 superintendents, curators and groundstaff in the safe and efficient handling of a chemical spill.

The exercises were based on a chemical spill that made its way towards a local waterbody on the golf course, activating the club's spill response procedure as well as the deployment of specialised spill containment and management equipment, recovery of spill material and the disposal of waste material. The exercises were also umpired by a mixed team of experts from government and industry (EBS, EnviroSolutions, EPA, local council officers, OH&S representatives).

The primary objectives were to facilitate improved preparedness for, and response to, spill incidents and to encourage clubs to develop and maintain an adequate capability to deal with pollution emergencies. The exercise provided information to enable attendees to assess their club's spill response status; determine their vulnerability should a spill occur at their club; and implement appropriate spill response strategies.

The program has been a huge success with participants commenting very favourably about the day's activity and the simplicity which this could be implemented at their facility.

This is a great initiative for the industry, however, the program could not have been successful without the support of the host golf clubs, superintendents and their teams

for leading this initiative in front of their peers. Congratulations to superintendents Scott McLaurin (Kiama Golf Club), Darren Jones (St Michaels Golf Club), Scott McKay (North Lakes Golf Club), Darren Moore (Lakelands Golf Club), Paul Earnshaw (Paradise Palms Golf Club), Andrew Smith (Yamba Golf Club), Peter Harfield (Blackwood Gold Club), Mal Grundy (Murray Bridge Golf Club), Idris Evans (Western Australian Golf Club), Tony Smith (Mowbray Golf Club), Lincoln Coombes (Cape Schanck Golf Club), Glenn Davie (Freeway Golf Club), David Mason (Warrnambool Golf Club) and Guy Thomas (Newcastle Golf Club).

Finally, I would like to thank the Australian Golf Union, the state golf course superintendent associations, Bulbeck EnviroSolutions and Environmental Business Solutions for assisting us to take this program around Australia.

Enjoy the magazine and I look forward to seeing you all in Echuca-Moama. 🌱



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Count on it.

The DEC assessments
covered 30 voluntary
courses across NSW



Assessing the state of play

Environmental Management Snapshot of NSW Golf Courses

During 2004, the
NSW Department
of Environment and
Conservation conducted
a series of environmental
assessments on 30 NSW
golf courses.

In the first of a two-part
feature, Peter Brown and
Kate Low present their
findings from the initial
assessments which
make for very interesting
reading.

Improving environmental management is a priority for golf courses and other turfgrass managers. Between 2001 and 2003 the AGCSA and the former NSW Environment Protection Authority (now part of the DEC) undertook a number of education and training initiatives, including the production of a manual 'Improving the Environmental Management of NSW Golf Courses'.

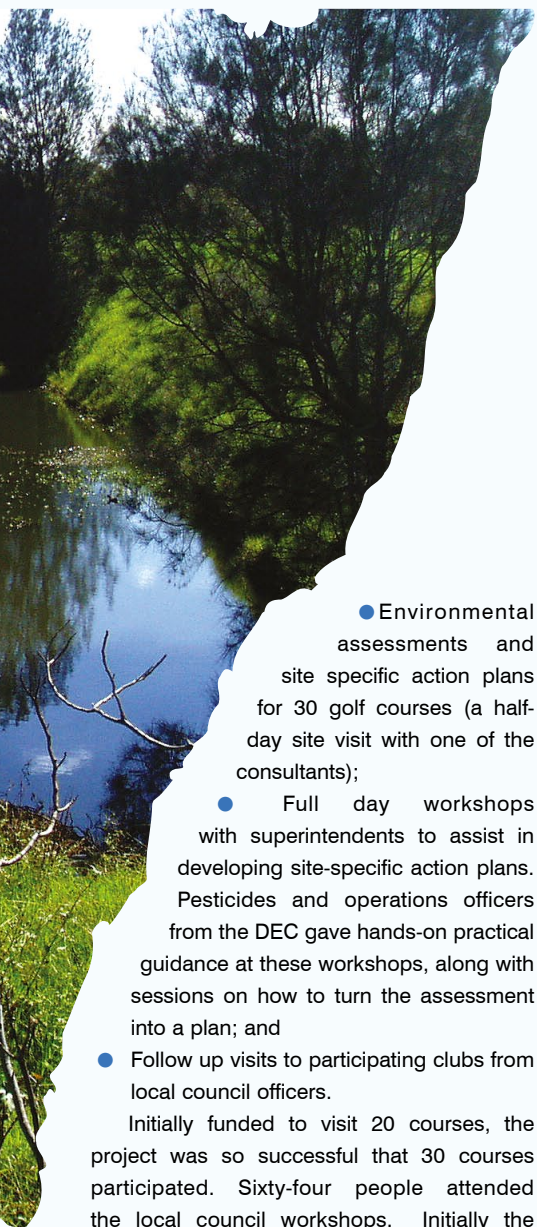
Following on from this manual, the NSW Department of Environment and Conservation (DEC), in consultation with the NSWGCSA, engaged consultants Kate Low and Peter Brown in a further project to improve environmental management.

The project was managed by Frouke de

Reuver, from the DEC, and the project was funded under the NSW Urban Stormwater Education Program. Craig Easton, formerly president of the NSWGCSA, worked closely with the DEC and the consultants, ensuring that the project was meeting industry needs.

Spanning most of 2004, the project involved:

- A pilot assessment of four golf courses (from which the site assessment questions and process were refined);
- Half-day workshops for local council environment officers (which helped environment officers to get some understanding of the issues facing golf courses);



● Environmental assessments and site specific action plans for 30 golf courses (a half-day site visit with one of the consultants);

● Full day workshops with superintendents to assist in developing site-specific action plans. Pesticides and operations officers from the DEC gave hands-on practical guidance at these workshops, along with sessions on how to turn the assessment into a plan; and

● Follow up visits to participating clubs from local council officers.

Initially funded to visit 20 courses, the project was so successful that 30 courses participated. Sixty-four people attended the local council workshops. Initially the superintendent workshops were only intended for those who had a site inspection, but as interest was high, the workshops were opened

to all interested superintendents. A total of 110 people attended these one-day workshops.

Participating clubs were in the Sydney metropolitan, Blue Mountains, Hunter, Mid North Coast, Central Coast, and South Coast regions of NSW. There were three council operated courses, three Group 1 courses, and all were well established. There was a broad cross-section of resources available, with staffing levels ranging from 3 to 14.

ASSESSMENT PROCESS

We developed a series of questions, based on the manual 'Improving the Environmental Management of NSW Golf Courses'. The questions were under 14 areas of environmental performance ranging from establishing environmental principles through to fertiliser practices, machinery operations and education and training.

Answers were generally yes/no, with ►

A MESSAGE FROM THE NSW DEC

The NSW Department of Environment and Conservation (DEC) has been pleased to work with the AGCSA, the NSWGCSA, golf course superintendents and local councils to improve environmental management of NSW golf clubs.

In 2004 we conducted environmental assessments of individual courses in order to provide a 'snapshot' of industry environmental performance, to generate educational material and to assist superintendents to develop site-specific environmental action plans.

A total of 30 clubs volunteered, which is a gratifying sign of their commitment to improve their environmental performance and their willingness to be transparent and actively expose both good and some poor practices. Some positive initiatives include bush regeneration programs, maintaining habitat for native fauna, minimising artificial fertiliser use and integrated pest management. However, there were some basic areas of non-compliance, mainly in the storage of chemicals and fuels, which is largely the legacy of past practices.

While these areas of non-compliance

are serious, it must be noted that many are mostly poor house-keeping and will not require significant funds or time to rectify. The following article outlines the key performance outcomes of the clubs.

During the first half of this year we are re-assessing the 30 participating golf courses and providing valuable feedback to the superintendents. The DEC is confident that this feedback will help those clubs to implement the key actions still outstanding and improve their overall environmental compliance.

We are keen to showcase clubs that have made these improvements and also some examples of 'best practice' in golf course sustainability – e.g. minimising water and pesticide use, preserving native flora and fauna habitat and using organic products. We will assist in publishing these case studies later this year.

Bernard Carlon,
Director, Education and Community Programs, NSW Department of Environment and Conservation.

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room for detailed comment where necessary. Areas of non-compliance were detailed in the comments, which were intended to form the basis of the site specific action plan.

Superintendents were sent the questions prior to a site visit. Some council officers attended these visits. We went through the questions before doing a site inspection and tour of the course. After the visit, we sent the assessment back to the superintendent for review, with recommended actions highlighted, before a final copy was sent to the club president, superintendent and local council environment officer.

ISSUES AND DISCUSSION

The following comments highlight a few of the issues that we identified with the project.

Participation was voluntary, so generally those who wanted to be involved already had a fair or high level of environmental awareness, and were trying to do the 'right thing'.

The project only had funding for a 3-4 hour visit to any course. This was enough to raise awareness and gain a snapshot of performance, but not enough to thoroughly assess all areas of environmental performance.

Glaring issues of compliance were generally covered, but it was not possible to fully consider issues such as fertiliser, chemical and water use, for example. We were providing an assessment, not a full-scale environmental audit. The knowledge, expertise and attitude of local council environment officers was variable.

The key results are discussed below, in each of the environmental performance areas.

ESTABLISHING THE ENVIRONMENTAL PRINCIPLES OF CLUBS

While many superintendents were undertaking sound environmental practices, few were working to a plan or policy. Practices and projects tended to be ad hoc rather than systematic.

Golf clubs are often political places, and written policies and an environmental action management plan will keep environmental issues on the boardroom table. The lack of written policies and plans regarding environmental management is a major issue for golf clubs.

We also asked superintendents what they were doing well. There were many great answers, including bush regeneration, community involvement, innovative water solutions, IPM and education programs.

Of the 30 clubs assessed, only three



Fuel storage was a major problem for many clubs

had written policies in place and two had an environmental management plan (EMP).

WATER MANAGEMENT

In view of the ongoing drought conditions and water restrictions in NSW, and the growing understanding of the effects of global warming, water management has special significance. The following responses to issues in this section may prove interesting (the figure represents % full compliance of assessed clubs).

WATER ISSUE

- Clubs indicating adequate and reliable water supply (**70%**)
- Those with some form of irrigation water quality issues (**33.3%**)
- Clubs that are totally reliant on potable water (**23.3%**)
- Clubs having partial reliance on potable water supply (**30%**)
- Clubs with a fully independent irrigation water supply (**50%**)
- How many clubs are using reclaimed effluent water (**6.6%**)
- Superintendents that record total water use (**56.6%**)
- Superintendents that record water use on greens tees and fairways (**13.3%**)
- Clubs with adequate irrigation system performance (**73.3%**)

INTEGRATED PEST MANAGEMENT (IPM)

All superintendents had at least some understanding of IPM, with many having a high level of expertise. Within the time constraints of the assessment, we could not ascertain to what degree and skill level IMP is practised. Most were monitoring pests and had a good understanding of pest life cycles. Most had thresholds of tolerance to pest damage.

PESTICIDE STORAGE, HANDLING AND APPLICATION

This high compliance area was divided into three main sections. We will deal with the 30 clubs' compliance performance in each of these. You may wish to use these compliance issues to do a quick quiz on your club's operation and facilities.

REQUIREMENTS UNDER THE NSW PESTICIDES ACT 1999

(% full compliance of assessed clubs).

- Do staff have appropriate training and accreditation for pesticide application? (**90%**)
- Are sufficient staff trained for pesticide application – minimum of two persons? (**73.3%**)
- Are the mandatory pesticide application records in place and do they comply with the NSW Pesticide Regulations 1995 and the NSW Pesticide Act 1999? (**80%**)
- Is the pesticide spray record available as a reference by a contact person for public inquiries? (**93.3%**)
- Are spray application calibration records kept? (**70%**)

STORAGE FACILITIES

(% full compliance).

- Is the storage facility self-contained with an appropriate bund to minimise risk from spillage? (See AS2057-1998) (**60%**)
- If the goods are stored under the NSW Dangerous Goods Act 1975, are they stored in a manner that complies with it (separation of liquids and powder)? (**70%**)
- Does the facility comply with the local council and fire regulations? (**43.3%**)
- Is the chemical storage area only accessible to authorised people? (**96.7%**)
- Are emergency response plans in place, ▶

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are they practised, are people trained in these procedures, are appropriate emergency contacts on hand? **(40%)**

- Are fertilisers and pesticides stored separately (i.e. in separate rooms according to AS2507-1998)? **(66.6%)**
- Is provision made for positive ventilation, containment area for spills, emergency shower/eyewash and first aid kit in or near the pesticide storeroom? **(30%)**
- Are all MSDS sheets readily accessible to employees? **(83%)**

PESTICIDE SPRAY TANK FILLING AND MACHINERY WASH DOWN BAYS (% full compliance)

- If a pesticide spray tank filling facility exists, is it separate from the machinery washdown or configured so that it has bund separation? **(50%)**
- Is the chemical handling and spray tank filling area able to contain and/or absorb all spills that may occur and be isolated from stormwater and sewage systems, streams, water-bodies etc? **(75%)***
- Do all spray tank hoses/lines comply with the local water authority requirements for back-flow prevention? **(43%)***
- Is the facility designed to prevent the entry of rainfall? **(50%)**
- Is the containment area designed to hold any spill until an accredited company can pump it out for appropriate hazardous waste disposal? **(66.6%)**
- Are all containers triple rinsed? **(100%)***
- Are staff trained in spill procedures and the appropriate spill kits available? **(46.6%)***
- Are appropriate emergency shower and eye wash facilities located at the load up area? **(26.6%)***



Storing waste oil like this could lead to an on-the-spot fine

Twenty-five clubs did not have a dedicated built pesticide spray tank filling facility. These clubs were assessed as to their current procedure, and the potential of that procedure to pollute, and for compliance with items marked with an asteric (*)

MACHINERY WASHDOWN

As with the pesticide spray tank loading, machinery washdown is acceptable on grassed areas that are well away from watercourses and drains and under controlled conditions. However, if a dedicated built structure is used for machinery wash down, it must comply fully with a number of requirements.

This section refers to 12 clubs with a dedicated, constructed machinery washdown facility. (% full compliance)

- Do machinery washdown practices risk pollution? **(33.3%)**
- If a built facility exists, does it have sufficient holding area for wash water, adequate screens and settling pits to trap solids and grass clippings? **(33.3%)**
- Are grease and oil separation devices in place? **(33.3%)**
- Does waste water to be disposed of meet the requirements of the local sewage service provider by a trade waste agreement or, if the waste water is to be reused, does its

quality comply with environmental and public health requirements? **(25%)**

- Are regular checks carried out to check wastewater treatment effectiveness? **(25%)**

This section refers to the 18 clubs without a dedicated machinery wash down facility.

- Is the wash down area located on a well-grassed area that is located so that there is no pollution risk to waterways? **(77%)**

Washdown facilities are complex, and there are issues with their design, construction and maintenance. In the long term, dedicated washdown facilities do reduce the risk of polluting, but they need to be carefully planned.

FUEL STORAGE AND FILL-UP FACILITIES

This was probably the greatest problem area for most clubs. There is little awareness of fuel as a potential pollutant. (% full compliance)

- Do petrol and diesel storage tanks comply with all the relevant regulations e.g. council, WorkCover NSW and fire authorities? **(16.6%)**
- Does the design of this facility comply with all the relevant authorities regulations (i.e. siting, bunding, minor spill catch sump, rain protection etc)? **(16.6%)**
- Are machine oil drums (new and used/recycled) adequately sited, bunded and rain protected? **(30%)**

These were some of the most common problems.

- Above ground diesel storage tanks without rain protection and/or inadequate bunding.
- Leaking underground petrol storage tanks.



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- Waste oil drums were often stored outside the shed without a bund or rain protection. Some of these had no cap in place and rainwater entered the drum. Oil contamination of the surrounding ground and drainage area resulted.
- Minor fuel spills at the filling area that were without rain protection and a concrete pad and minor spill catch sump were causing on-going soil contamination.
- New engine oil was in some cases stored in the shed without bund protection risking spillage pollution of nearby drains.

Many of the problems could be solved by better housekeeping and minor financial outlay. Some fuel storage compliance issues required more costly solutions. Thoroughly investigate the best options for your site. Check the websites of all the authorities mentioned above, and discuss your proposals with your local council.

WASTE MANAGEMENT

In most assessments waste management was only superficially discussed. The 30 assessed clubs all participated in some form of waste recycling. Mostly, this was done through the council services. In the majority of cases, items such as plastic, glass, metals, used oils, paper and cardboard are all recycled.

Disposal of chemical containers is an issue for many clubs. Some use drumMuster, and a few return containers to suppliers, but the drumMuster program is not widely available, and many containers cannot be recycled.

Waste vegetation is an issue for most clubs. Some clubs chip tree waste and stockpile the material to use as mulch. Nutrient concentration can be a problem if wood-chip stockpiles are adjacent to a watercourse. There are limits to the quantity of mulch that may be used and many clubs have no option but to pay for removal to the council vegetation tip. Tree contractors often have a glut of wood-chip and will either offer to leave it on site or charge for its removal.

FERTILISER PRACTICES

Fertiliser practises were another area which was only covered superficially in the assessments. Obviously practices vary with climate, conditions, grass species and management philosophy, so we could not draw any specific conclusions. There were no obvious practices that could be interpreted as excessive fertiliser use. Many superintendents are using organic and slow release forms and soil microbiological supplements.

All the superintendents kept fertiliser records, usually in diary form. A few kept details of elemental N:P:K on greens, tees and fairways. Many superintendents use growth regulators to reduce fertiliser and mowing inputs during peak growth periods. Turf nutrition is a complex and site-specific science and no attempt was made in our assessments to determine the outcomes of any particular fertiliser practices over any others.

FERTILISER PRACTICES

(% full compliance)

- Are fertiliser application records kept? **(96.7%)**
- Is some form of soil or nutrient testing done on a regular basis to assist in planning for nutrient programs? **(96.7%)**
- Are growth regulators used to reduce fertiliser input? **(30%)**

GRASS SELECTION

Grass selection is an important environmental and economic issue. Poor turfgrass species selection has many long-term negative effects on the operation of any sports turf facility.

The clubs we assessed had been established for many years and their management practices are based around the existing grasses. The exception was those clubs involved in reconstruction projects where new turfgrasses are being considered.

Most superintendents (83%) indicated that the existing grasses in their greens, tee and fairways performed satisfactorily to provide quality surfaces. The remainder, who were dissatisfied with the existing grasses, unanimously agreed that it was possible and economically viable to change to more desirable grass types.

SOIL MANAGEMENT

There were a number of common problems at the clubs we visited. Unsealed roadways and compound areas are subject to water and wind erosion. Dust and particle pollution was common inside workshops.

Drainage ditches and water hazards were commonly subject to erosion and resulting sedimentation from the practice of herbicide use to eliminate bank vegetation. Blanket herbicide spray may result from golfer pressure or from the impossibility of mowing such features, but it has a substantial environmental impact.

Other soil losses result from poorly designed or non-existent soil storage bins. Many of these problems are costly to remedy and long-term budgeting may be required. ►

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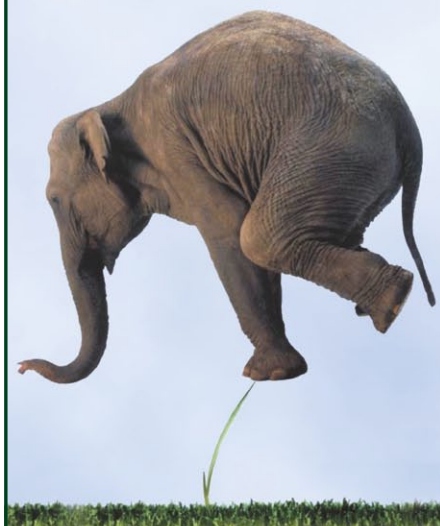
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SOIL MANAGEMENT

(% out of 30 assessed clubs answering yes to these compliance issues)

- Soil erosion and sedimentation along waterways. **(50%)**
- Unsealed access roads and compound areas subject to erosion. **(56.6%)**
- Acid sulphate soil disturbance. **(0%)**
- Stockpiles of materials e.g. sand, soil, mulch etc inappropriately managed to avoid erosion and sediment run-off. **(43.3%)**

NATIVE VEGETATION, FAUNA AND WETLANDS

Of the 30 assessed clubs six had no remnant native vegetation. However, without exception, all of these clubs had planted considerable numbers of native plants. Of the 24 clubs with remnant native vegetation 21 were actively preserving these areas and four others were planting more. Seventeen clubs had a formal tree planting policy.

Weeds are a problem in all courses with remnant bushland areas and controls reliant on resources available. This varied from course staff only, to course staff and member volunteers, to outside bush regeneration groups.

Koalas are recorded regularly on two courses and two courses have kangaroos in residence and a few others record occasional sightings. One superintendent is placing owl nesting boxes in the trees.

Almost all the courses (29 of the 30) assessed, had ponds, lakes or wetland areas. Of these 76 per cent had urban run-off involved. Fourteen of the 30 courses regularly monitored water quality. Algal blooms were recorded at eight courses and aquatic weeds were controlled by 19 courses.

Feral animals such as rabbits and foxes were recorded at all locations. Some clubs needed to actively control them (22) but others did not. There is a strong conservation awareness among the superintendents, most of whom are restricted by funding.

MACHINERY OPERATIONS

Questions posed by the environmental assessment template (% out of 30 assessed clubs)

- Creation of no-mow areas or low frequency mowing areas? **(90%)**
- Planting out of areas not in play? **(67.4%)**
- Use of growth regulators? **(63.3%)**
- Are grass clippings or scarification residues stockpiled? **(20%)**
- Of the above, how many adequately



compost and recycle residues? **(100%)**

- Are there noise issues on the course that require effective control? **(67.4%)**
- Are appropriate procedures and materials in place to deal with spills of fuels, oils, solvents, etc, so that they are contained within the workshop and do not contaminate storm-water drains? **(33.3% compliance issue)**

EDUCATION AND TRAINING

Questions posed by the environmental assessment template (% out of 30 assessed clubs answering yes)

- Is a staff induction and procedures manual in use? **(60%)**
- Are employee appraisals and feedback procedures in place? **(33.3%)**
- Is job specific on-going training of all employees club policy? **(80%)**
- Is the golf club involved in any programs to engage and educate golfers and the wider community in the benefits of the golf course and the efforts made towards its stewardship? **(16.6%)**
- Is the golf club actively involved with outside organisations and community groups to assist them in improving environmental practices and engaging the local community? **(46.6%)**

SUMMARY

The job of a golf course superintendent is a complex one. Superintendents need high levels of knowledge, skill and expertise in areas of turf management, golf, machinery, staff management, working with boards, communities and business skills.

More recently the job has also required skill in non traditional areas such as OH&S and environmental management. The majority of the superintendents we worked with were dealing with these issues, with varying levels of success.

The major problems identified were in and around maintenance sheds and in the office. Most issues around the maintenance sheds have a financial constraint.

There is a lot of old infrastructure, which is no longer compliant, and hinders the operations of a safe efficient maintenance facility. Planning, prioritising and budgeting are required to overcome these deficiencies.

Most clubs do not have adequate plans and policies in place for their environmental management. The best practices were when environmental management strategies were incorporated into overall club business and/or master plans. When it is not written, it is likely to get lost or forgotten.

Some of the observations we made could not be captured in the 14 environmental performance areas. There seems to be an ongoing lack of understanding by many golf course boards, who cannot see how environmental management directly relates to them and their responsibilities as a board member of a club. This makes the superintendent's role much more difficult.

As part of this overall study, follow up assessments are now being conducted and the results of this will be presented in a future edition of Australian Turfgrass Management.

We noted that those superintendents that were actively involved with the NSWGCSA tended to be those that were performing best. The value of networking, exchanging ideas, and talking to each other cannot be overestimated.

Conversely, those who were isolated from the association were finding some of the challenges of environmental management much harder to deal with.

ACKNOWLEDGEMENTS

Many people participated, helped and supported this project. Thanks to all 30 golf clubs that participated. Thanks to the councils and the golf clubs who offered their chambers and clubs for the various workshops. Rod Fox and Dave Thompson from the NSW DEC offered great practical advice and support. Frouke de Reuver is a champion project manager, who kept us on track and interested. We appreciate the support of the NSWGCSA, in particular Craig Easton. 🌱



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The environmental challenges facing superintendents are as demanding as ever

The trend towards change

Having conducted a number of environmental audits at NSW golf clubs in recent months, Terry Muir looks at some of the trends, both good and bad, which have emerged and how superintendents are rising to the challenge of improved environmental responsibility.

Environmental auditing is a systematic, documented, and objective process in assessing a club's activities and services. An audit is designed to provide information on the strengths and weaknesses of a club's environmental management and to identify opportunities to improve performance.

Audits are more than inspections of engineering structures or elements such as air, noise, water, waste and flora and fauna issues. Other important audit elements include administration of environmental management, environmental procedures, culture, environmental documentation, environmental communication, environmental policy, due diligence, and potential for change.

One of the best auditing techniques to understand a club's environmental status and determine its effectiveness is through staff - how they receive and interpret environmental information, carry out instructions, and deliver services according to management and legislative requirements.

TRENDS

Recent audits confirm superintendents operate in an environment fraught with risk. They also confirm the golfing industry is not immune to having both environmental leaders and environmental laggards. Evidence from audits conducted across many clubs indicates significant trends confirming clubs are performing well in many areas yet under-performing in others.

High performance areas include chemical, fertiliser and water management, an expected result most likely attributed to the training superintendents have received.

Areas found to present significant opportunities for improvement were common across clubs and included environmental policy development, environmental risk assessment, environmental training, accountability, environmental structure, standard operating procedures, environmental communications and change management.

Again, this was an expected result and attributable to a number of issues including resources, training, and the lack of a standard of environmental performance for the industry.

Clubs were found to place a priority on environmental performance for a number of reasons that, among others, included compliance and a moral obligation to perform environmentally.

The need for a whole of industry approach was a common response. An important point is that superintendents need to be safe in the knowledge that they are abiding by an industry wide environmental standard or code of practice, which has been specifically developed to support and guide them.

The lack of a one-for-all strategy designed to ensure uniformity across the industry was a common finding among superintendents.

Superintendents were found to be managing from a compliance perspective rather than dealing with, and managing, 'issues'. The legislation certainly does not clarify all the things that superintendents should know about environmental management.

By relying on legislation they are missing the important management opportunity of identifying areas in which they must try harder, areas in which they can maintain or even slow their environmental efforts.

Some clubs reported the development of environmental strategies, however, they were found to focus on environmental defence rather than best practice. To effectively manage environmental problems it's critical to identify the real causes of the problems and how to address them.

Superintendents reported finding it difficult to move away from focusing on just behaviours and events and look at the structures that caused the problem to occur in the first place.

Some superintendents were found to spend more time using communication skills to empower other staff to incorporate environmental management into their operations. Although this was not common, many have become improvement-oriented

and are making a valuable contribution to productivity and environmental outcomes.

The overwhelming finding is that superintendents want change that can deliver the necessary actions to manage the environmental risks associated with maintaining a golf course. Many claim the task of delivering their environmental message to many audiences – committees, members and management – is a major barrier to effective environmental management.

Claims that it's difficult to be green when the club is in the red were common. However, the recent South Australian case (Director of Public Prosecutions v Trans Adelaide, 2004) does not support the economics argument. The court reported:

"Precautions may be costly. The cost of precautions to avoid pollution will no doubt become accepted, in due course, as an ordinary cost of operating in an industry where, absent precautions, pollution may occur. Legislation of this kind contemplates that, in general, the cost of preventing pollution will be absorbed into the costing of the relevant industries and in that way will be borne by the community or by that part of it which uses the product which the industry produces."

The pro-engineering fix mindset was common at a number of clubs. Many clubs had inappropriate washbay, fuelling and chemical mixing areas. The favoured approach was the engineering fix (construct a new washbay, chemical mixing area, bunding). This addresses the problem but never changes the causative risk factors such as training, procedures and human behaviour.

The audits found there were few adherents to behavioural and internal management solutions. This is of concern as it suggests a prevailing bulldozer approach to level an

ant hill – a disproportional fix, to a single and remote possibility of a failure. Another example is the propensity to purchase expensive spill kits designed for large spill events when there is only a remote possibility of a failure (spill event). The causal factors training, procedures and monitoring were often overlooked.

OTHER SIGNIFICANT FINDINGS

- Environmental awareness is high but this has not translated to motivation to develop robust EMPs;
- There are significant gaps in environmental management knowledge;
- Superintendents are hampered in their ability to deliver on environmental management by unsupportive committees and management;
- Many superintendents do not have the authority to make change;
- Superintendents were found to be anxious about their environmental liabilities;
- The flawed presumption that the super must answer all environmental challenges at once was common;
- Many superintendents view environmental management as a cost rather than an investment;
- The present system of management at many clubs does nothing to encourage the superintendent to do more than the compliance minimums, so that "compliance" becomes a kind of ceiling. Many superintendents can, in fact, do better than the compliance minimums;
- Superintendents remain central to the delivery of environmental policies;
- Alarming, senior management at some clubs stated the superintendent was solely responsible for environmental management outcomes;

- Environmental management seems certain to increase at all clubs audited.

Environmental management at all clubs audited would simply not work without the superintendent's leadership and commitment. Yet, many seem to be over-challenged by political debate about their role at the club and stated a compelling case for change.

Superintendents expressed concern about their powers, freedoms and accountability on the one hand, and about financial control on the other. This is a major tension.

Overall, the environmental challenges for superintendents were found to be as demanding as ever. They have to deal with the expectations from members, committees, management, the public and regulators. As the club's environmental manager they have to perform under the constant spotlight.

The audits demonstrate the breadth and complexity of just some of the issues that superintendents have to tackle. Yet it is their job to provide solutions that are safe, sustainable, acceptable to stakeholders and affordable.

The increased regulatory scrutiny and public accountability that surrounds the industry post Warringah belies the substantial improvements that have been made at many clubs audited.

Simply by commissioning an audit or starting an environmental management program, the superintendent has begun the implementation of the agenda for change.

Yet some superintendents reported being marginalised by club committees and management because of their environmental commitment.

The audits confirm the challenges and expectations of superintendents are significant as are the opportunities to improve and make a real difference. 🌱

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Improving the waste and resource management of Perth golf courses

The Golf Course Superintendents' Association of Western Australia has gone a long way to improving its waste and resource management with the release of a report which gives a series of recommendations and strategies for waste recycling and the reduction of waste going to landfill.

"The report and recommendations are timely, especially as our association has had preliminary talks with the Department to develop a Green Stamp Program for golf clubs," says GCSAWA president and Gosnells Golf Club superintendent Brad Sofield.

"The program's primary objective would be to reduce or eliminate the quantity of waste produced on golf courses and to further enhance the conservation of raw materials and resources such as energy and water.

"The outcomes of this Western Australian project complement a national swing towards sound environmental management on all golf courses, spearheaded by the AGCSA and the Australian Golf Union (AGU).

"Golf clubs are continuously being encouraged to further reduce waste through recycling initiatives and water and energy saving programs. It is pleasing to note that many golf courses in WA are run by professional turf managers equipped with a wealth of

In what is believed to be an industry first, the GCSAWA has released a report titled Waste Processing and Resources Information for Golf Courses in the Perth Area.

The report has been produced in response to the Western Australian Government's Waste Reduction Program, and involved a survey of 52 metropolitan golf courses to identify the major sources of waste from golf courses and what happened to that waste.

The survey report was based on answers provided by superintendents as well as golf club secretary managers in the Perth-Mandurah area. Analyses of best practices led to long-term recommendations and strategies for the reduction of waste going to landfill and the recycling of waste close to source.

Perth-based consultants David and Mary Dale were contracted by the GCSAWA to conduct the survey, collate information and provide recommendations aimed at helping superintendents meet government targets. The project was funded by the WA Government's Waste Management Board (WMB), which is overseen by the WA Department of Environment.

knowledge and experience. They also have some of the most technologically advanced management systems at their disposal.

"The ongoing development of relationships with local governments, community groups and environmental organisations is becoming a major focus for our association. The examples in the report of best practice by individual golf clubs and the performance ratings for different operations should help all golf clubs improve operations. Reducing the industry's environmental impacts will bring economic as well as environmental benefits."

According to David Dale, 56 per cent of superintendents and secretary managers responded to the detailed questionnaires.

"That was an excellent response, indicative of their commitment to the industry and the further development of environmentally responsible management practices," says Mr Dale. "The survey provided extensive information and data about current best practices as well as varying techniques relating to most aspects of golf course management.

"Association members can now take an informed approach to improving current waste

management techniques as well as golf course management in general."

The report provides a series of recommendations for waste processing and recycling management, recycling green waste, recycling other wastes, pesticide management, resource use reduction and environmental programs.

The Perth area region consists of courses ranging from as far south as Mandurah and Pinjarra, Sun City and Yanchep to the north and as far east as Mundaring, Pickering Brook and Araleun.

WASTE PROCESSING AND RECYCLING MANAGEMENT

- Each golf club in the Perth area appoint a recycling coordinator to assist their club with waste processing and recycling programs and initiatives;
- These recycling coordinators liaise with each other. This could be done with an initial meeting, sponsored by one or more of GCSAWA, GCMA and the Western Australian Golf Association, and should be widely publicised. Ongoing networking,

including through the Internet, would optimise sharing of information;

- GCSAWA provide, at all future annual conferences, a review of waste processing and recycling practices in WA and include a set of presentations on initiatives taken;
- GCSAWA advise WMB of its interest in making presentations about golf courses at future conferences on waste processing and recycling initiatives in WA. Extra support for the conferences might be obtained from the Commonwealth Department of Environment and the Perth Convention Bureau.

RECYCLING - GREEN WASTES GRASS CLIPPINGS

- GCSAWA request superintendents using worm farming and/or composting techniques to assist and encourage others to follow their example. This could include the production of a pamphlet outlining the requirements, procedures and benefits of these techniques;
- Clubs consider establishing worm farming and/or composting operations on their land

and to combine operations with nearby major generators of green wastes.

COURSE CORINGS

- GCSAWA investigate the feasibility of threshing soil cores and spreading the material behind the coring machine, thus saving on transportation of cores and maintaining soil and nutrients in situ.

TREE AND SHRUB PRUNINGS

- Clubs that burn tree and shrub prunings investigate opportunities for using the prunings to produce woodchips and mulch.

RECYCLING - OTHER WASTES DRINK CANS AND BOTTLES

- Clubs ensure they provide sufficient clearly labelled special bins for drink cans and bottles, both on course and at the clubhouse and pro shop, and inform staff and golfers of these facilities and the benefits of recycling;
- GCSAWA, in liaison with GCMA, consult the manufacturers, major suppliers and



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recyclers of drink cans and bottles about opportunities for more efficient recycling of this resource by clubs in the Perth area.

CARDBOARD AND PAPER

- GCSAWA produce a pamphlet for clubs advising of the easy steps and outlets for the recycling of cardboard and paper. Clubs inform staff, including pro shop;
- GCSAWA, in liaison with GCMA, consult major recyclers of cardboard and paper in Perth about opportunities for the more efficient recycling of this resource.

CHEMICAL CONTAINERS

- Clubs find uses for empty chemical containers other than sending to landfill;
- GCSAWA, in liaison with GCMA and the Western Australian Local Government Association, collaborate with the national drumMUSTER program (e.g. holding an annual day for the collection and recycling of empty chemical containers).

FERTILISER BAGS

- GCSAWA produce a pamphlet for golf clubs advising of possible end uses, other than landfill, for empty fertiliser bags.

MACHINERY OILS AND BATTERIES

- GCSAWA provide all clubs in the Perth area with the names of firms willing to collect these.

TOILETS

- GCSAWA, in liaison with GCMA, promote the use of biocycle toilet systems for replacement of septic toilet systems, where sewer connections are not viable.

PESTICIDES MANAGEMENT HANDLING AND MANAGEMENT

- GCSAWA request the Health Department of Western Australia's Pesticide Safety Section to provide another 'Pesticide Awareness Course' for Perth golf clubs.

IPM PROGRAMS

- GCSAWA liaise with AGCSA to promote the adoption of IPM programs by more clubs in the Perth area.

RESOURCE USE REDUCTION FERTILISER USE

- GCSAWA further quantify the use of fertilisers on courses in the Perth area. Quantities of fertilisers, nutrients, water use and frequency of application should be studied to identify situations of waste.

WATER CONSERVATION

- Clubs recognise the economic and environmental benefits to be gained from their efficient use of water. Accordingly, GCSAWA, in liaison with GCMA, encourage clubs to undertake irrigation/water audits and implement a water management strategy or policy for their course.
- GCSAWA, in liaison with GCMA, enter into discussions with the Planning and Infrastructure Branch of the Water Corporation on the development of innovative methods for water supply and management.

WASH DOWN BAYS

- GCSAWA, in liaison with GCMA, contact relevant State Government departments (including Environment, Health and Water Corporation) about prospects, including financial subsidies, for the recycling of effluent from wash down bays.

ENERGY CONSERVATION

- GCSAWA, in liaison with pump suppliers and/or professional associations (e.g. Engineers Australia), provide information and hold a field day for golf club superintendents and managers to show the effectiveness of variable speed drive pumps and the cost-benefits to be gained from using them.
- GCSAWA, in liaison with GCMA, request the Western Australian Sustainable Energy Development Office to provide advice, for distribution to golf clubs, on reducing energy consumption in commercial buildings and links to companies offering energy management services;
- GCSAWA, in liaison with GCMA, encourage golf clubs to undertake energy audits and have an energy conservation strategy or policy for their club.

ENVIRONMENTAL PROGRAMS MANAGEMENT PLANS

- GCSAWA recommend to AGCSA that, in liaison with the AGU, a scheme such as the Audubon Cooperative Golf Sanctuary program or the European Golf Association's Committed to Green program, be established for the environmental enhancement of golf courses in Australia.

ENVIRONMENTAL ADVICE

- GCSAWA, in liaison with GCMA, seek guidance from the Western Australian Department of Environment on how to best obtain and distribute to golf clubs advice on environmental matters;
- GCSAWA, in liaison with GCMA, apply for a Lotterywest website development grant to enable WA golf clubs to exchange and provide advice on environmental matters.

LINKS WITH COMMUNITY AND ENVIRONMENTAL GROUPS

- GCSAWA, in liaison with GCMA, encourage clubs to strengthen existing and forge new links with local community groups and/or environmental organisations, through initiatives such as arranging an annual open day for members of local community groups to visit; formation of environmental advisory joint committees; and research projects and case studies.
- GCSAWA recommend to the AGCSA that, in liaison with the AGU and possibly the Australian Local Government Association, it consider developing more formal links nationally with local government authorities and also with national (e.g. Birds Australia), state and local environmental organisations to promote better knowledge and management of golf courses.

ENVIRONMENTAL INITIATIVES

- GCSAWA, possibly in liaison with GCMA, present environmental awards, for best practices and/or noteworthy initiatives on WA golf courses, each year.

NATIVE VEGETATION AND WILDLIFE

- Clubs with locally significant bushland encourage members and others to take an active interest in the long-term study, protection and management of that bushland;
- GCSAWA, in liaison with GCMA, the Western Australian Local Government Association, the Department of Environment and the Department for Planning and Infrastructure, discuss ways and means (e.g. through community programs) of better managing bushland on golf courses in the Perth area.

For more information about the report, contact Brad Sofield at the GCSAWA, PO Box 289 Karrinyup WA 6921. Alternatively, phone (08) 9455 4195 and 0414 554 195 or email superintendent@iinet.net.au.

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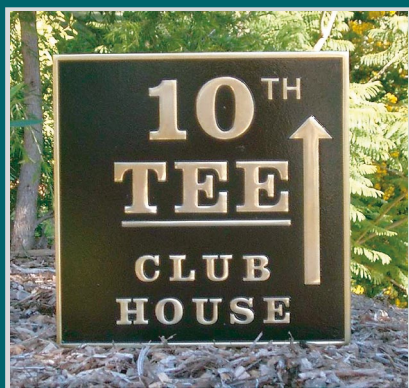
Recycled Plastic Car Park Sign



Hardwood Course Sign



Recycled Plastic Road Sign



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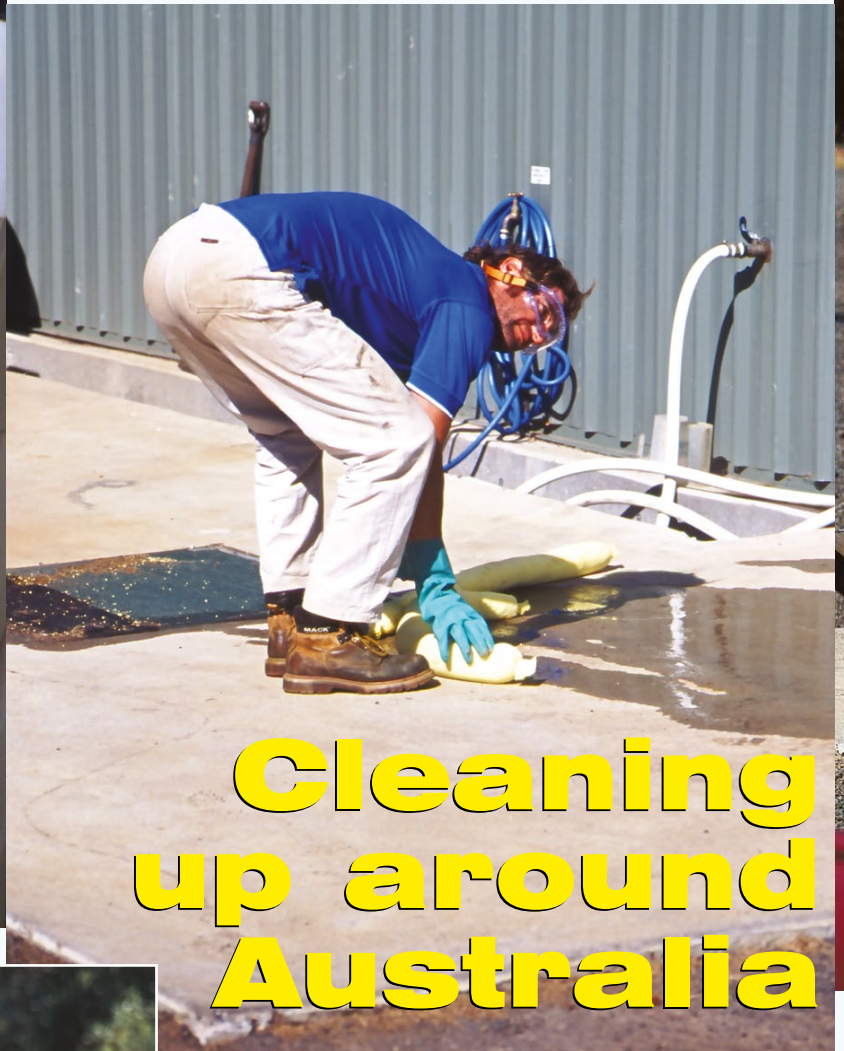


Cast Bronze



Cast Aluminium

- COURSE - TEE INFORMATION - CAR PARK - ROAD



Cleaning up around Australia



From March through May, the AGCSA, in conjunction with the AGU, Environmental Business Solutions and EnviroSolutions, conducted a series of National Chemical Spill Exercise workshops around the country. Designed to test the host golf club's chemical spill contingency plans, practices and procedures, the workshops attracted around 600 attendees from Paradise Palms north of Cairns across to the Western Australian Golf Club in Perth. ATM magazine went along to the Freeway Golf Club workshop in Melbourne.



At Freeway Golf Club assistant superintendent Mat Poultney and first year apprentice Shannon Bennett were put through their paces under the watchful eye of their industry peers as well as Terry Muir (EBS) and Murray Jones. Over 30 attended with strong representation from TGAA members and local golf course maintenance facilities.



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SAVING TIME



21st Australian Turfgrass Conference and Trade Exhibition 6-10 June, 2005

Official Guide

SAVING MONEY



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RAIN BIRD



Welcome to the official guide for the 21st Australian Turfgrass Conference which forms part of this edition of ATM. Over the following pages you will find a comprehensive preview of the conference which visits the Murray region for the first time. We look at the wide range of topics that form the education component of the week as well as the popular social functions, trade show, AGCSA Golf Championships and the AGCSA Awards. Enjoy what should be a fantastic week and I look forward to meeting you all in Echuca-Moama.

- Brett Robinson,
Editor, ATM



Echuca-Moama 2005

WELCOME TO ECHUCA-MOAMA

Welcome to this year's edition of our guide to the 21st Australian Turfgrass Conference and Trade Exhibition being held in Echuca-Moama.

I must admit to being very confident about our first regional conference in many years. I was fortunate to spend some time visiting the beautiful Moama and Echuca townships when an old friend Phil Knight was superintendent at Rich River Golf Club. Therefore, I am very much looking forward to see what changes have taken place over the past 20 years compared to where I have been at the northern border of NSW.

Having the conference in Echuca-Moama should allow many of our country colleagues from NSW, Victoria and South Australia to possibly attend their first conference. I can still remember attending my first, which left a lasting impression on how great an industry I was involved in.

Of course, it has grown dramatically since then so it will be interesting to see how the country atmosphere affects us all. It should give us all a great opportunity to further our education and network with our colleagues.

I can only hope that all attendees appreciate all the hard work that the AGCSA staff has put into making sure that this year's conference continues the tradition of past years, in maximising your opportunities to mix educational and professional development with our famous social gatherings.

A big thank you also to all our trade exhibitors and attendees in anticipation for making this year's conference the start of a new era in regards to the re-introduction of regional conferences. I look forward to seeing you all in Echuca-Moama.

Jeff Gambin,
Superintendent, Gold Coast Burleigh Golf Club,
President, AGCSA



With water management such a prominent issue for the modern-day turfgrass industry, the mighty Murray River will act as a fitting backdrop when Echuca-Moama plays host to the 21st Australian Turfgrass Conference from 6-10 June.

While recent conference venues have included Melbourne (2004), Adelaide (2003) and Brisbane (2002), the 2005 conference breaks with tradition and heads into Australia's historic heartland.

The AGCSA has decided to take its annual conference to a regional venue in order to encourage participation from regional turf

managers and to enable the bigger facilities to bring their assistants to expose them to the additional education and networking opportunities the conference provides, all at a cost effective rate.

The Moama Bowling Club will be the centre of attention for the week, playing host to not only the education component of the week but also the tradeshow which will run concurrently on the Wednesday and Thursday.

The riverside townships of Echuca-Moama will also play host to the many wonderful social gatherings, such as the welcoming cocktail reception, which make conference week such a highlight for the industry.



PRESENTING...

The theme for the 2005 conference is 'How to save time and money' and one of the key presenters addressing this topic will be apIFINANCIAL Services owner Jon Griffin who will discuss the issues of loans, leases, hire purchase vs purchase as well as budgeting and financial record keeping.

The conference will also showcase a number of Australia's most respected turfgrass researchers and agronomists, including Dr Don Loch (Queensland Department of Primary Industries), Dr Louise Barton (University of Western Australia), Dr David Aldous (University of Melbourne) and Phil Ford (NMIT).

Dr Loch, who heads the QDPI team at Redlands, has helped establish it as one of the leading turfgrass research facilities in Australia. In Echuca-Moama he will present papers on warm-season grasses and climate, soils and turfgrass adaptation, while Dr Barton will outline the new UWA kikuyu project.

Continuing in the research vein, AGCSATech manager John Neylan will present a paper on the AGCSA's ongoing treated effluent trials at Barwon Heads Golf Club, before teaming up with the University of Melbourne's Geoff Connellan in a presentation outlining the very topical issue of water management plans.

The workshops cover a gamut of topics

ranging from USGA spec greens construction, calibration of spraying equipment and fauna habitat restoration through to species ecology of golf greens, OH&S and the unique challenges Aussie superintendents are facing managing golf courses in the Middle East.

Also presenting will be Terry Muir (EBS), golf course architect Ross Watson, David Westall (Scotts), Jim Hull (University of Sydney), Danny Wotherspoon (Abel Ecology) and environmental law expert Carlo Zoppo (Sparke Helmore). Unfortunately due to injury, keynote speaker Professor Ken Marcum from Arizona State University will not be attending the conference.



A wide range of topics will be presented

will be held at the Loco Shed. The evening will have a 'country' theme so come dressed in flannelette shirts, akubras and drizabones. Stock whips optional.

On Sunday and Monday afternoon, delegates will also have the chance to do a spot of fishing on the mighty Murray. The Cashmore Fishing Classic is a social fishing competition with prizes up for grabs, and the first 75 to register get a free rod.

Tuesday evening has the potential to create one of the big talking points of the week – the Scotts Paintball Challenge. Armed and dangerous superintendents will be unleashed on a series of courses with the aim pretty simply to gun down your rivals.

For those that survive, the following night Syngenta will be hosting a session at the Great Aussie Beer Shed. The shed is something of an icon in Echuca-Moama and the night will provide a great way of catching up with industry colleagues in an informal setting.

As with all conferences, the festivities conclude with the conference dinner which will this year be held at Radcliffe's in Echuca on Thursday evening.

TURF TOURS

As in previous years, the 2005 conference will conclude on the Friday with two day-long turf tours. These will provide delegates with an excellent opportunity to see first hand some of the unique challenges superintendents and turf managers face in this particular region.

The golf course management stream will take in Yarrawonga and Border Country Club, Cobram Barooga Golf Club, and the Heritage Seeds Research Farm. The general turf management stream will visit the Moama Bowling Club and the Corowa Sports Club.



Moama Bowling Club

TRADE EXHIBITION

In response to the needs of the trade, the 2005 conference will be much smaller than in previous years. This will allow those companies exhibiting the chance to spend quality one-on-one time with delegates.

The Moama Bowling Club will play host to the two-day tradeshow which will run over Wednesday and Thursday. Around 30 of the turf industry's leading companies will be exhibiting and later in this guide are listings for those which are.

TAKE AIM

Each year during the Australian Turfgrass Conference there are a number of popular social gatherings, and with the 2005 conference heading to the Murray region there will be a distinct country flavour.

Kicking proceedings off on Monday night will be the welcoming cocktail reception which



Every year the AGCSA rewards excellence in the golf course maintenance industry at its annual awards ceremony during the Australian Turfgrass Conference. The AGCSA Awards represent the ultimate in recognition for industry members, and in turn provides the perfect opportunity for the industry to collectively honour its outstanding achievers. ATM looks ahead to see who will have their names etched onto the honours boards in 2005.



JOHN DEERE



2005 AGCSA Awards

At the 20th Australian Turfgrass Conference in Melbourne, the AGCSA Board paid special tribute to some of the pioneers of the superintendent profession when it bestowed the prestigious Distinguished Service Award upon five industry legends.

In a fitting ceremony, Claude Crockford, Mick and Vernon Morcom, Rube Walkerden and George Rüb were all remembered for their pioneering spirit and special role in promoting the superintendent profession through the better part of the 20th Century.

The posthumous awards were the perfect lead-in to the annual AGCSA Awards ceremony which saw four current day AGCSA members rewarded for their excellence.

Gisborne Golf Club stalwart Ray Keane was honoured with the Distinguished Service Award, young Craig Webley from Lakelands Country Club in Western Australia was named Graduate of the Year.

Peter Schumacher's efforts in converting Elanora Country Club into one of Sydney's gems paid dividends when he was bestowed the AGCSA Excellence in Golf Course Management Award, while fellow northern Sydney superintendent David Warwick continued to champion the environmental cause through his winning of the hallowed AGCSA Claude Crockford Environmental Award.

So who will be the lucky recipients in 2005?

AGCSA DISTINGUISHED SERVICE AWARD

PRESENTED IN PARTNERSHIP WITH SCOTTS AUSTRALIA

Whether it was mowing the greens at his beloved Gisborne Golf Club in Victoria or helping steer the development of the first truly national superintendents' association, 2004 winner Ray Keane epitomised what the Distinguished Service Award is about.

Bestowed specially by the AGCSA Board, the award recognises an individual that has left an indelible mark on the golf course maintenance industry.

Without a doubt the most prestigious award handed down each year, it takes into consideration all aspects; the direction and inspiration handed down to generations of golf course superintendents, involvement at state and national levels, education, communication and research.

Being in the right place at the right time could possibly sum up Keane's experiences in the superintendent trade, and it began some 35 years ago when he was superintendent in charge of construction at Gisborne.

From there Keane entered the Victorian association alongside the likes of Claude Crockford, and also played a role in the early development of the national association, which despite being a challenging and frustrating time saw him form many friendships with the likes of George Rüb and Rube Walkerden.

In winning the award, Keane joined a long and prestigious list of previous winners, which, among others, include Doug Robinson, Neil Adams, Vince Church and Bill Powell.

RECENT WINNERS

2000: Peter McMaugh; **2001:** Professor Peter Martin; **2002:** Peter Sawyer and Doug Robinson; **2003:** Dene Goldsack; **2004:** Ray Keane.



Ray Keane



AGCSA CLAUDE CROCKFORD ENVIRONMENTAL AWARD

PRESENTED IN PARTNERSHIP WITH
BAYER ENVIRONMENTAL SCIENCE

In these times of heightened environmental awareness and regulation, the Claude Crockford Environmental Award takes on great significance. With golf courses now under increasing public and legislative scrutiny, environmental management and responsibility has become a primary concern for the modern day superintendent.

The man who this award is named after was a champion of the environment, and the legacy Claude Crockford left at Royal Melbourne Golf Club continues in this award which recognises excellence in golf course environmental management.

This award has become one of the most sought after at the annual presentation ceremony and always attracts a highly competitive field of nominees. Winning the Claude Crockford Environmental Award provides a huge fillip for the superintendent and his or her crew, and is something that the entire club can take pride in.

In 2004, Avondale Golf Club superintendent David Warwick beat home a strong challenge from North Lakes Golf Club superintendent Scott McKay to pick up the award.

The award was recognition of the major environmental management improvements Warwick has made to the Sydney course in recent years, including getting the course certified as part of the Audubon program, one of only a few of Australian courses to do so.

Selection criteria for the award include the demonstration of a commitment to sustainable land management, long-term planning, community involvement and overall environmental stewardship of the golf course and its surrounding environment. Protection of indigenous plant and animal populations, restoration of habitat and a desire to protect sensitive areas are also highly regarded aspects of this award.

RECENT WINNERS

2000: Ben Tilley (*Beewah Golf Club*); **2001:** Andrew Baker (*Sanctuary Cove Golf Club*); **2002:** Jeff Austen (*El Caballo Golf Resort*);

2003: Darren Watson (*Horizons Golf Club*) and Spiros Skaftouros (*Growling Frog Golf Course*); **2004:** David Warwick (*Avondale Golf Club*).

AGCSA EXCELLENCE IN GOLF COURSE MANAGEMENT

PRESENTED IN PARTNERSHIP WITH
JOHN DEERE

If the number of golf course projects in progress around Australia is anything to go by, the AGCSA Excellence in Golf Course Management award will again be hotly contested in 2005.

Launched in 2001, this award has taken over the proud tradition of the previous AGCSA Fellowship Award. As the name suggests, this award aims to recognise a superintendent for achieving excellence in golf course management within the past two years, whether it be in the presentation of the course or reconstruction.

Elanora Golf Club superintendent and former AGCSA Board member Peter Schumacher was the 2004 recipient after extensive redevelopment of the north Sydney course. Schumacher's name joined a who's who of the golf course maintenance industry, with previous winners including current AGCSA president Jeff Gambin, Gary Dempsey, John Geary, Pat Pauli and Richard Forsyth.

Over a four year period Schumacher and his team secured the club's water source by extending the existing dam, returfed the entire course to Wintergreen, installed a new irrigation system, and constructed 19 USGA spec A1 bentgrass greens. As well, 45 tees were built, a driving range added, 64 bunkers constructed, two wetlands formed, over 15,000 natives planted and the maintenance facility upgraded.

As many will attest, the bar has been set pretty high for 2005.

RECENT WINNERS

2000: Allan Devlin (*Secret Harbour Golf Club*); **2001:** Mark Gahan (*The Dunes Golf Links and Thirteenth Beach Golf Links*); **2002:** Gary Bass (*Croydon Golf Club*); **2003:** Idris Evans (*Western Australian Golf Club*); **2004:** Peter Schumacher (*Elanora Golf Club*).



AGCSA GRADUATE OF THE YEAR

PRESENTED IN PARTNERSHIP WITH
TORO AUSTRALIA

With the rise of dedicated turf education courses in recent times, the calibre of graduates increases from year to year, which makes this award one of the most difficult to judge.

The AGCSA Graduate of the Year award is special as it gives an indication of where the future of the industry lies. Today's recipients will be tomorrow's superintendents and turf managers and will ultimately go on to play a major role in the development and direction of golf course maintenance in this country.

For the lucky graduate, the award provides a huge boost, helping to launch their career in the best way. And with Toro coming on board as award sponsor in 2004, a lucrative education package also goes the way of the winner.

Webley was part of an impressive list of graduate candidates which included Mathew Windisch (*Kiama Golf Club, NSW*), Haydn Reid (*Flagstaff Hill Golf Club, SA*), Matthew Beddison (*Horsham Golf Club, VIC*).

RECENT WINNERS

2000: Brett Barsby (*Royal Queensland Golf Club*); **2001:** Scott Carruthers (*Pennant Hills Golf Club*); **2002:** Glenn Dawson (*Federal Golf Club*); **2003:** James Dalton (*Thirteenth Beach Golf Club*); **2004:** Craig Webley (*Lakelands Country Club*). 🌿



2005 AGCSA Golf Championships



The 362m par 4 15th at Rich River

History was created on the greens at Metropolitan Golf Club last year when Trevor Ridge and Anthony Toogood tied for the AGCSA Golf Championships. ATM ponders whether the same will happen again when superintendents tee up at Rich River Golf Club.



Looking across to the par 3 16th

The Murray region is known for its wealth of fine golf courses and one of the best will play host to the keenly contested AGCSA Golf Championships during the 21st Australian Turfgrass Conference in Moama.

The East Course at Rich River Golf Club will be the battle ground for superintendents in 2005, a former venue of the Senior Australian Open which weighs in at 6131m with a course rating of 72.

Rich River is home to 37-year-old superintendent Andrew Johnson. Together with recently appointed assistant superintendent Michael Dove and a crew of 14, Johnson looks after the 36-hole complex which also comprises the older West Course. All fairways and tees are Wintergreen couch with some Santa ana tees, while all greens are Pennncross.

Johnson is a Murray boy through and through and did his apprenticeship further along the river at Yarrawonga.

He was there five years before moving to Sydney where he worked under John Odell at Royal Sydney Golf Club for six years, rising to the position of joint assistant superintendent.

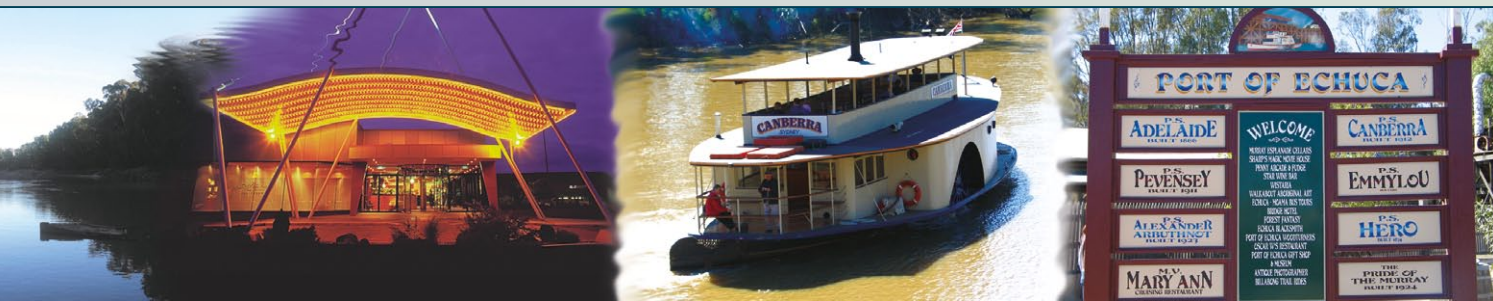
A father of three, including seven-year-old twin daughters Courtney and Maegen, Johnson has been at Rich River for the past eight years.

During that time he has overseen a revamp of the newer East Course which saw the construction of a number of new tees as well as complete bunker restoration.

Working with respected golf course architect Peter Thomson, Johnson and his crew spent an intensive four months in early 1998 improving the overall strategic nature of the bunkers as well as improving their drainage and playability to enhance the character of the East Course.

Not surprisingly, water management is one of the main issues Johnson has to deal with at Rich River.

Johnson's main goal at the moment is the planning of a new irrigation system, and last



year the club spent up large on upgrading pumping stations and changing control systems across from Rain Bird to Toro.

"The main issue we have up here is water," says Johnson.

"Due to the heat we have to manage our water very tightly. We lose a lot to evaporation, but we're lucky in that we have a good water licence."

2005 has already proved to be an eventful period for Johnson and his crew, and a quick check of the rainfall chart speaks volumes.

March and April this year have brought a combined total of just 6.5mm of rain. Compare that with the 85mm for February which fell in just one day, the same day on which Melbourne recorded an incredible 134mm in a 24-hour period.

That dumping caused plenty of damage to both courses with widespread flooding and the crew had to work around the clock to bring the course back into play for a major tournament the following week.

Looking ahead to the 2005 AGCSA Golf Championships, it has plenty to live up to considering the exploits of the competitive field

that took to Richard Forsyth's Metropolitan last year.

The 2004 event created history when Trevor Ridge (Sawtell Golf Club) and Anthony Toogood (Albury Golf Club) both fired four-over rounds of 76 to share the trophy for the first time in the event's history.

It was Toogood's second victory (he won outright in 1998 at Indooroopilly) while for Ridge the victory saw him claim his first title after a number of near misses.

Ridge is set to tee up at Rich River to defend his title but will have some serious competition in the form of former Red Jacket holders and Martyn Black (Castle Hill Country Club), Allan Devlin (Secret Harbour Golf Club) and VGCSA life member Colin Cowden (Rossdale Golf Club).

While the stroke will be eagerly contested, a strong field will line up in the stableford. 2003 champion Peter Jans (Sanctuary Lakes Golf Club) will again be in the mix, but the dark horse could in fact be host superintendent Andrew Johnson.

Tipping the scales just shy under 6'5" and playing off an 11, Johnson has decided to



Rich River superintendent Andrew Johnson

throw his clubs in the ring and believes a little bit of local knowledge could go a long way to securing the title.

And does he have any advice for those about to tackle the East Course: "Stay dry. There's plenty of water out there which comes into play on a number of holes."

While superintendents will battle it out at Rich River, further up the river at Barham Golf Club the AGCSA Corporate Cup will be played out. Both events will be held on Monday, 6 June.

2003 Corporate Cup winner Andrew Combe (*Nelson Golf Club*) will make the journey across from New Zealand to take his place in the 2005 field.

On the evening of Sunday, 5 June, AGCSA Golf Championships sponsor Toro will host its traditional golf function at Morrisons Winery on the Murray.

This function is only open to those who are contesting the AGCSA Golf Championships at Rich River Golf Club. More details will be available at the conference. 🌱



HOLE BY HOLE - EAST COURSE, RICH RIVER GOLF CLUB					
Hole	Length	Par (Stroke)	Hole	Length	Par (Stroke)
1	533m	5 (9)	10	321m	4 (16)
2	370m	4 (2)	11	444m	5 (18)
3	176m	3 (12)	12	384m	4 (1)
4	309m	4 (14)	13	189m	3 (4)
5	482m	5 (15)	14	346m	4 (6)
6	356m	4 (7)	15	362m	4 (11)
7	332m	4 (10)	16	141m	3 (17)
8	142m	3 (13)	17	343m	4 (8)
9	372m	4 (3)	18	529m	5 (5)
OUT	3072m	36	IN	3059m	36
			OUT	3072m	36
			TOTAL	6131m	72

Not sure where to go,
what to do, or who to see?
ATM provides delegates
with a full rundown of the
21st Australian Turfgrass
Conference program,
including all the education
sessions and social
functions.



Conference Program

Sunday 5th June

- 8.00am** AGCSA Awards Judging
- 1.30pm** Social Fishing Competition
- 6.30pm** AGCSA / Toro Australia
Golf Championships Function

Monday 6th June

- 6.00am** AGCSA / Toro Australia
Golf Championship
- 6.00am** AGCSA Corporate Cup
- 2.00pm** Social Fishing Competition
- 7.00pm** AGCSA Welcoming Cocktail Reception

Tuesday 7th June

ALL STREAMS

8.00am – 8.45am

LOANS, LEASES, HIRE-PURCHASE VS PURCHASE

Jon Griffin, apFINANCIAL

8.45am – 9.55am

WATER MANAGEMENT PLANS –

*John Neylan, AGCSATech and
Geoff Connellan, – University of Melbourne*

9.55am – 10.15am Morning Tea

10.15am – 11.00am

CORRECT CALIBRATION – *Craig Day, - Weddin
Agricultural and Chemical Services*

11.00am – 12.15pm

FAUNA HABITAT RESTORATION –

Danny Wotherspoon, Abel Ecology

12.15pm – 1.15pm Lunch

GOLF AND GENERAL TURF

1.15pm – 2.15pm

NITROGEN LEACHING –

Dr Louise Barton, University of Western Australia

2.15pm – 3.15pm



NEW WARM-SEASON GRASSES – DO THEIR REQUIREMENTS MATCH YOUR CLIMATE? –

Dr Don Loch, QDPI

3.15pm – 4.00pm

Afternoon Tea

4.00pm – 5.00pm

SPRAYING FUNDAMENTALS –

Craig Day, Weddin Agricultural Chemical Services

5.00pm – 8.30pm

SCOTTS PAINTBALL CHALLENGE

NEXT GENERATION

1.15pm – 2.15pm

NEMATODES – THE UNWANTED PARASITE

David Westall, The Scotts Company

2.15pm – 3.15pm

USGA CONSTRUCTION –

Andrew Peart, AGCSATech

3.15pm – 4.00pm Afternoon Tea

4.00pm – 5.00pm

SPRAYING FUNDAMENTALS –

Craig Day, Weddin Agricultural Chemical Services

Wednesday 8th June

GOLF

8.00am – 9.00am

PHOSPHORUS SOLUBALISATION –

Jim Hull, University of Sydney

9.00am – 10.00am

AGCSA AWARDS PRESENTATION

10.00am – 1.30pm

Trade Exhibition / Morning Tea / Lunch

1.30pm – 2.30pm

AGCSA AWARDS PRESENTATION

2.30pm – 3.30pm

ENVIRONMENTAL LAW –

Carlo Zoppo, Sparke Helmore

3.30pm – 5.00pm

Trade Exhibition / Afternoon Tea

5.00 pm – 6.00 pm

AGCSA ANNUAL GENERAL MEETING

6.00 pm – 9.00pm

SYNGENTA GREAT AUSSIE BEER SHED NIGHT

GENERAL TURF

8.00am – 9.00am

EFFECTIVE SPRAYING APPLICATION – Craig Day,

WACS

9.00am – 10.00am

NITROGEN LEACHING MANAGEMENT – Dr

Louise Barton, University of Western Australia

10.00am – 1.30pm

Trade Exhibition / Lunch

1.30pm – 2.30pm

RISK ASSESSMENT –

Terry Muir, Environmental Business Solutions

2.30pm – 3.30 pm

BUDGETING AND FINANCIAL RECORD KEEPING

– Jon Griffin, aplFINANCIAL

3.30pm – 5.00 pm

Trade Exhibition / Afternoon Tea

6.00 pm – 9.00pm

SYNGENTA GREAT AUSSIE BEER SHED NIGHT



Thursday 9th June

GOLF

8.00am – 9.00am

RESEARCH UPDATE – BARWON HEADS GOLF

CLUB – John Neylan, AGCSATech

9.00am – 10.00am

STRESS MANAGEMENT PROPERTIES OF NOVEL

SURFACTANT CHEMISTRY – Mica Franklin,

Aquatrols Ltd

10.00am – 11.30am

Trade Exhibition / Morning Tea

11.30am – 12.30pm

THE MAKING OF MAGENTA SHORES –

Ross Watson, Ross C Watson Pty Ltd

12.30pm – 1.30pm

Trade Exhibition / Lunch

1.30pm – 2.30pm

SPECIES ECOLOGY OF GOLF GREENS –

Bill Walmsley, Ceres Research Centre

2.30pm – 3.30pm

KUWAIT EXPERIENCE –

Andrew Peart, AGCSATech

3.30pm – 4.00pm

Trade Exhibition / Afternoon Tea

GENERAL TURF

8.00am – 9.00am

SALT TOLERANT GRASSES FOR SPORT AND

RECREATION FACILITIES –

Dr David Aldous, University of Melbourne

9.00am – 10.00am

RESEARCH WRAP UP – Phil Ford, NMIT

10.00am – 11.30am

Trade Exhibition / Morning Tea

11.30am – 12.30pm

OCCUPATIONAL HEALTH AND SAFETY – THE

KEY REQUIREMENTS – Carlo Zoppo, Sparke

Helmore

12.30pm – 1.30pm

Trade Exhibition / Lunch

1.30pm – 2.30pm

CLIMATE, SOILS AND TURFGRASS ADAPTATION

– Don Loch, QDPI

2.30pm – 3.30pm

ENVIRONMENTAL MANAGEMENT PLANS

– Terry Muir, Environmental Business Solutions

3.30pm – 4.00pm Afternoon Tea

ALL STREAMS

4.00pm – 5.00pm

MULTIPLE WATER RE-USE TECHNOLOGY –

Peter Cooper, NuSource Water

6.30pm – 12.00pm

CONFERENCE DINNER - RADCLIFFE'S

Friday 10th June

8.00am – 5.00pm

Turf Tours

GOLF COURSE MANAGEMENT STREAM

Yarrawonga and Border Country Club, Heritage Seeds

Research Farm, Cobram Barooga Golf Club

GENERAL TURF MANAGEMENT STREAM

Corowa Sports Club, Moama Bowling Club



Dr Louise Barton



Craig Day



Dr Don Loch



Jon Griffin



Ross Watson



Terry Muir



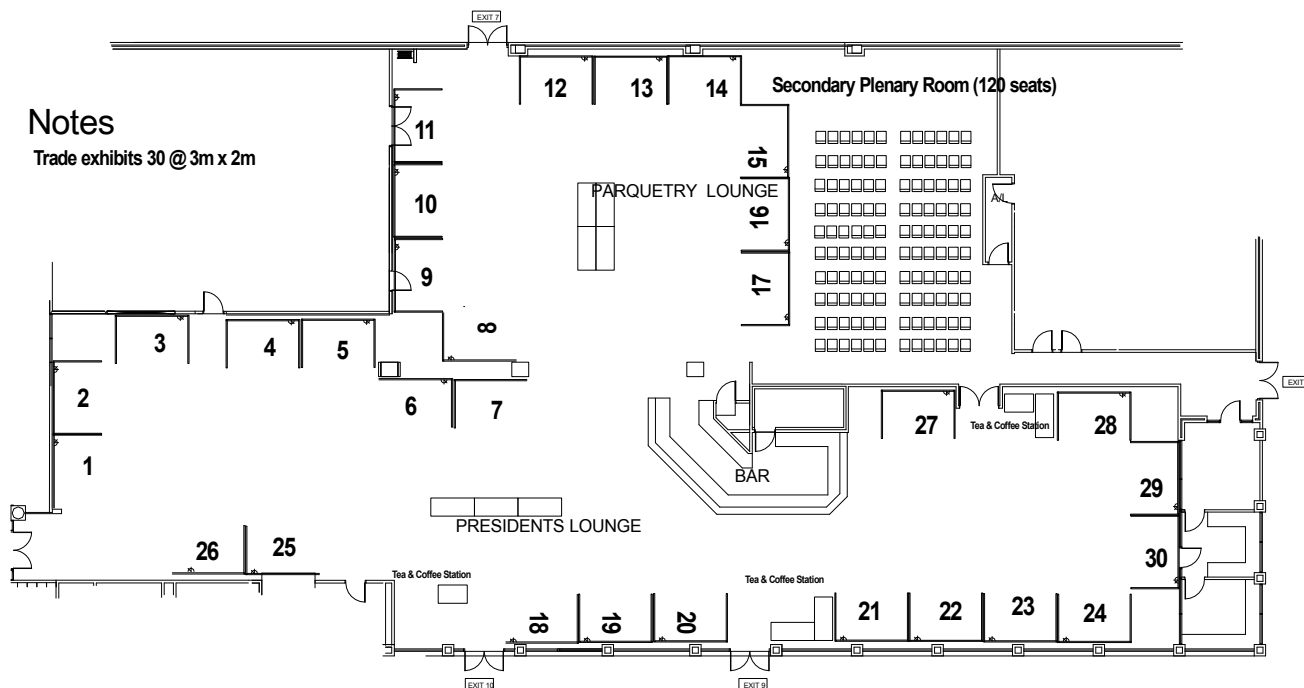


Conference Floor Plan

21ST AUSTRALIAN TURFGRASS CONFERENCE - TRADE AND LUNCH AREA

Notes

Trade exhibits 30 @ 3m x 2m



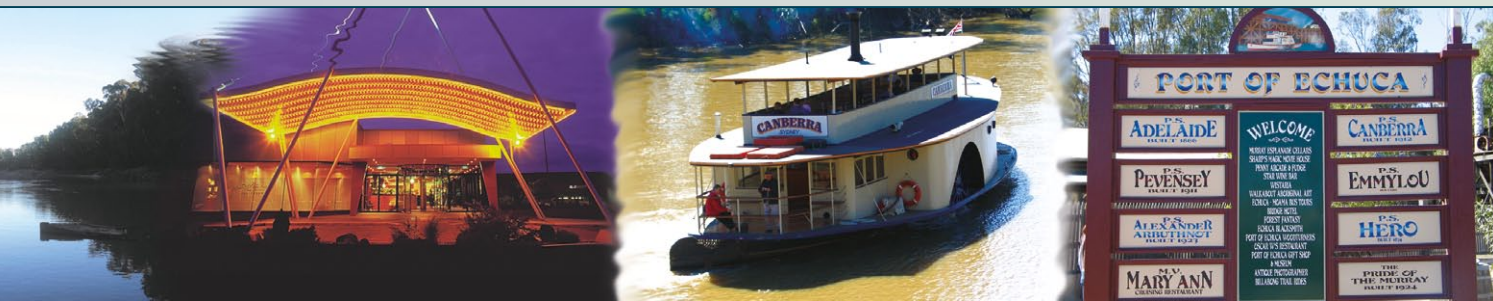
BOOTH NUMBER COMPANY

1.....	Barmac
2.....	Globe
3.....	SST
4.....	Brown Brothers
5.....	PowerTurf
6.....	Rain Bird
7.....	Dint Australia
8.....	Club Car
9 to 11	Conference sponsors wall
12.....	Grundfos
13.....	Geofabrics
14.....	AGCSA Bookshop
15.....	PGG Seeds
16.....	OasisTurf

BOOTH NUMBER COMPANY

17.....	Country Club International
18.....	Toro
19.....	Simplot
20.....	Redexim
21.....	Evergreen Turf
22.....	Environmental Business Solutions
23.....	Orica
24.....	Aquatrols
25.....	John Deere
26.....	David Golf
27.....	Scotts
28.....	Syngenta
29.....	Agrichem
30.....	Nuturf

STAND NUMBERS AND COMPANIES ARE SUBJECT TO CHANGE



Exhibitor Listings

AGRICHEM

Agrichem has been expanding internationally and is known for its development and formulation of liquid nutrition. As Australian turf nutrition specialists, Nuturf along with Agrichem can provide nutritional advice on deficiency treatment, maintenance programs and all facets of turf nutrition.

Agrichem products will help you save time and money, as they are designed to maximise plant uptake and minimise wastage, hence maximising effectiveness and efficiency for the user and the environment.

Nuturf, through product distribution alliances with fertiliser companies such as Agrichem, Lesco and Terralift, can provide a total solutions approach to turf nutrition management.

The Agrichem Turf Nutrition Manual will be distributed at the 2005 show, along with the launch of two exciting new products.

Come and see the stand to find out more about the Agrichem product range. We are committed to the turf industry and would be happy to talk about liquid fertilisers and what they can offer to you as a turf manager. Don't hesitate to go to www.nuturf.com.au.

AQUATROLS

Nuturf will be releasing new surfactant technology from Aquatrols Corporation of America, taking the wetting agents industry to a new level. Aquatrols are the leaders in soil surfactants, being well established in the industry and at the forefront of technological advancements.

Find out about how this new product works, and how it will save time and money! Studies prove there is increased photochemical efficiency of the turf plant and the plant's natural antioxidant activity is extended. This has a significant impact on turf resilience and disease tolerance. Turf quality and uniformity is improved, as results show that chlorophyll and proline levels are increased, contributing to consistent colour and improved playability.

Aside from the latest technology, come and hear about the other Aquatrols products

and how they fit into the product range and their specific functions in turf management. Nuturf is able to offer an injection package, which includes an injection unit with Dispatch for broadacre injection use, and Aqueduct for curative treatment.

We hope you are able to hear from Aquatrols agronomist Mica Franklin who will tell everyone about the latest surfactant technology and the impact this has on the fundamentals of turf health and its ability to withstand stress.

BROWN BROTHERS

Brown Brothers Engineers Australia Pty Ltd is an importer and distributor of Lowara pumps and pumping equipment, with sales offices in Sydney and Melbourne. Lowara Pumps was established in Vicenza, Italy in 1968 and is part of ITT Industries, a global engineering and manufacturing company. Lowara specialises in the manufacture of premium quality pumps and fluid handling equipment and is recognised world wide for quality, efficiency and reliability.

Brown Brothers specialises in the design and fabrication of purpose built booster systems particularly for golf courses in both New Zealand and Australia. Many of these booster systems include a Hydrovar variable speed drive. The Hydrovar is a microprocessor pumping system controller, but it does more than just change speed. It actually manages the performance of the pump to match a wide range of system conditions and requirements.

The Hydrovar software is designed specifically for centrifugal pump operation, control and protection. It can be set up to protect the pump from operating under various unfavourable conditions, eg: cavitation, operating against a closed head, low NPSH etc. The Hydrovar provides the golf course superintendent with flexibility of watering when required with substantial savings on installation, power usage and maintenance.

CLUB CAR AUSTRALIA

Club Car Australia is the nation's only authorised distributor for the world's leading

manufacturer of golf cars, transportation vehicles, utility vehicles and AVS (Alternate Vehicle Solutions).

The Carryall Turf product line contains a variety of economical vehicles that are suited for use all over the golf course, whether it's cutting cups and setting flags or picking up golf balls on the driving range.

These vehicles are not only the most manoeuvrable turf utility vehicles in the industry, they are also the most functional vehicle in their class and are perfect for the full range of maintenance tasks.

Introduced to the market five years ago, Club Car turf vehicles – available with a petrol engine or electric motor – are a real performer, providing extended run time, more power, and a quiet ride.

Club Car vehicles are used virtually everywhere, from golf courses and communities to colleges/schools/university campuses, from industrial complexes to construction sites, from farms and ranches to hotels and resorts. Make your next purchase a Club Car!

Club Car is pleased to be exhibiting at the 21st Australian Turfgrass Conference and we look forward to seeing you in Echuca-Moama.

DAVID GOLF & ENGINEERING

David Golf & Engineering is pleased to be exhibiting at the 21st Australian Turfgrass Conference and Trade Exhibition in 2005. David Golf & Engineering is Australia's largest manufacturer and distributor of golf course hardware, accessories and golf driving range equipment. ▶



◀ Exhibitor Listings

David Golf has serviced the golf industry in Australia and internationally for 50 years. Head office is in Melbourne with offices in Sydney and Brisbane, while there is an extensive distributor network across the country.

The company's golf hardware range includes ball washers, tee markers, flags and flagpoles, hole cutters, putting cups, bunker rakes, fairway and maintenance equipment, litter bins and tee signage. For the driving range, David Golf can supply range mats, ball pickers, ball washers and ball dispensers.

David Golf & Engineering supplies to all golf courses throughout Australia and also supplies products to countries such as China, Fiji, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore, Thailand. So come and visit us at Moama and make sure to ask us about how to qualify for freight-free deliveries.

DINT AUSTRALIA

Phew! A lot has happened in 12 months since the Melbourne conference tradeshow. DINT has been busy establishing a growing export market and working with Troon Golf. However, this has not stopped DINT focusing on servicing the local industry.

Always the innovator, DINT has introduced a range of new initiatives that have raised the bar in respect of service. These include DINTxt, DINT Direct and monthly newsletters.

DINTxt is an SMS messaging system that alerts superintendents and clients when their order has left the warehouse. Fantastic for tracking goods and meeting ETAs.

DINT Direct is a direct marketing program available to all golf courses and clients and is widely used by superintendents across the country. Great savings can be made.

Monthly newsletters are now a regular feature from DINT and are sent to all superintendents, advising of news, industry information, as well as a general sports wrap of all codes from our one-eyed South Sydney Rabbitohs editor.

DINT will be showcasing its new initiatives at the tradeshow in Echuca-Moama, as well as displaying a range of new products and the ever popular Show Specials. A visit to Stand No.7 will be well worth your while.



ENVIRONMENTAL BUSINESS SOLUTIONS

Environmental Business Solutions will be showcasing its award-winning E-par environmental management program at the 21st Australian Turfgrass Conference in Echuca-Moama.

The program recently won three major industry awards at the 2005 Hunter Environmental Achievement Awards, including 'Best Environmental Product and Service', 'Best Environmental Policy and Planning' and overall 'Division Winner – Business and Government.'

E-Par is an effective environmental management tool. Using E-par superintendents can develop a complete environmental management program in a matter of days. Designed specifically for golf courses, E-par provides all the 'how-to' information and documentation required to develop an environmental management program.

The E-par software package also includes an environmental management folder, monthly environmental newsletters, environmental alerts, environmental hotline, online electronic updates, environmental mind map poster, and membership certificate.

If you would like more information on becoming an E-par member, contact Terry Muir on terry@ebsnet.com.au or telephone (02) 4927 8443. Terry will be presenting at the conference and invites you to discuss with him the environmental issues concerning your course.

EVERGREEN TURF

Evergreen Turf has been successfully producing quality turf since 1982 from our farm south east of Melbourne. We are building a reputation for embracing and delivering innovative and state of the art products and services.

Instant turf provided by Evergreen includes Conquest couch. This excellent couchgrass has been proven as a low input grass in the VGA trials and is performing well in the sportsfield market.

Over the past three years, Evergreen Turf has successfully branched into areas such as sports surface conversion. This section of the

business focuses on converting cool-season surfaces to warm-season varieties. A specially designed machine shreds turf, plants stolons in rows and seals the material in the ground all in the one operation.

To complete the package, Evergreen Turf has its 'Grid Lock' turf system, a 50mm thick cut reinforced turf for sportsfields and racecourses which is ready for immediate play.

'Turf Grids', a component of the 'Grid Lock' system, has been used in many successful applications including York Park, Tasmania, and as part of the medium for drainage works at several Victorian country training tracks.

As you can see, Evergreen Turf is more than just turf. Call us on 1800 677 655.

GLOBE AUSTRALIA

Globe Australia has been a leading supplier of fertilisers, plant protection chemicals, selective herbicides, soil wetting agents, turf maintenance machinery, and analytical diagnostic services to turf managers for more than 40 years.

We now have a team of 30 field consultants servicing the turf industry across Australia. No one understands more the concerns and requirements of golf course superintendents than the people at Globe.

Maintaining turf is never easy; you are affected by many things you cannot control such as weather, disease pressures, or even an increase in traffic. So when you need the support of an expert resource on the latest products and the best proven practice in their use, then your local Globe representative is there to help. We know our products and your conditions well and are able to provide sensible alternative solutions.

Our technical support team can provide valuable information on prevailing conditions which can influence decision making, soil analysis, water chemistry, and disease diagnostic services, which can be a key to product selection and application.

Globe Australia is on the move and we hope you will like what you see. Take the time and come and talk with our people during the tradeshow.



GRUNDFOS GRUNDFOS

The Grundfos reputation for innovation is clearly evident in the extensive range of pumping solutions it produces for turf and golf course irrigation. Located at Stand 12 at the 21st Australian Turfgrass Conference tradeshow, Grundfos will be promoting its Hydro pressure boosting systems, its extremely exact digital dosing systems and its monitoring and control equipment.

The Grundfos Hydro booster pump range offers a unique combination of control and adaptability. Every pump in the range can be customised to meet specific capacity requirements, and the logical control system enables a fast and flexible operation. Importantly, the Hydro system is reliable and extremely energy efficient.

To tailor a solution to meet your needs, contact one of our local Grundfos representatives. We look forward to seeing you in Echuca-Moama.



JOHN DEERE JOHN DEERE

John Deere is proud to be a part of the 21st Australian Turfgrass Conference. We look forward to hosting you on our stand, where we can introduce you to our comprehensive array of turf machinery, ranging from reel mowing equipment to specialty turf machinery and utility tractors.

At this year's show, we are excited to announce the release of the 2500E Tri-Plex Hybrid Greens Mower. As the industry's first hybrid greens mower, the 2500E is more than just an electric mower. It operates on a traditional engine that drives an alternator which powers electric reel motors to drive the cutting units.

This industry-exclusive design eliminates more than 90 per cent of potential leak points while also reducing sound levels and increasing fuel efficiency. And because the 2500E is not dependent on battery power for run time, it can keep the same frequency of clip on every green.

Talk to us about ways John Deere Credit can provide financial options for either purchasing or leasing golf and turf equipment, and representatives from our nationwide

dealer network will be on hand to outline our unmatched after sales support and also discuss the unique John Deere World Championship event.

NUTURF NUTURF

Nuturf Pty Ltd has a dedicated agronomic team headed by Peter Kirby with a laboratory set up in our head office in Lidcombe, NSW. They are a team of specialists providing real solutions.

This enables Nuturf to provide a high level of support to our territory managers and customers. A quantitative package is provided with both diagnostic services and advice, which provides the turf manager with an in-depth analysis of the intertwining of nutrition and plant protection issues.

Services offered to customers are second to none, providing the latest advice and knowledge. This enables turf managers to make management decisions and fully understand the relevant characteristics of soil and water, two primary influences of turf quality.

Quantifying nutrient and pest problems in the turf environment are the keys to effective, efficient and sustainable management. Nuturf can solve problems, while ensuring impacts on the environment are minimised. This will save time and money!

Come to our stand to see the services we can offer. The range has been strengthened to include weed and insect identification, disease diagnosis, nematode count services and water suitability analysis. And don't forget our easy online access for soil reports. Don't hesitate to go to www.nuturf.com.au.



OASIS TURF

When turf managers require the latest in fertiliser, chemical, and wetting agent technology, Oasis Turf is the company they go to. Oasis Turf has exclusive distributorships with major suppliers such as Lebanon Turf Products, Growth Products, Plant Marvel, PGG Seeds and Kalo.

Oasis Turf also represents Bayer Environmental Science, Better Methods, Colin Campbell Chemicals, Chem Ag, Farm Oz,

Fertico, Nufarm, and Patons Fertilisers as key Victorian distributors.

One of the latest products Oasis Turf has introduced is EXPO, a slow-release nitrogen and potassium in a homogenous prill. EXPO 20-0-20 provides the turf manager with methylene urea nitrogen and sulphate of potash that is resinated in one particle. This provides slow-release N and K for up to 12 weeks. The particle size is suitable for greens renovation, green surrounds and tees applications.

This type of technology is also used in our fairway grade NX PRO MESA fertiliser range. This uses chips of sulphate of ammonia resinated in methylene urea particles.

Kalo wetting agents were introduced to the Victorian market last year. The range includes Tournament Ready (greens), Hydro Wet (fairways) and Pro Ap (wetting agents and chemicals). Call in and speak to David, Matthew, Peter or Rick.

ORICA WATERCARE ORICA WATERCARE

Orica Watercare is Australia's leading supplier of chemical based water and wastewater treatment products. We are a science-based business with an outstanding record of working with customers and R&D organisations to develop and bring to market innovative and effective solutions to water treatment problems both in Australia and internationally.

Landguard™ is a new pesticide clean-up product developed by Orica Watercare in conjunction with the CSIRO. The product is capable of reducing pesticide residue in water within minutes to levels that would take months to occur naturally. Importantly, by-products formed are considerably less toxic and more biodegradable than the original pesticide.



◀ Exhibitor Listings

Landguard™ is very simple to apply and typically requires no additional equipment. Simply mixing the product into contaminated water can achieve 99.9 per cent reductions in pesticide concentrations, typically within 30 minutes. Applications include the treatment of contaminated spray equipment rinsate and contaminated field run-off and pesticide spills.

Landguard™ offers farmers, processors, greenkeepers and ground curators with a simple and effective solution to pesticide contamination. Its use will minimise health and environmental issues wherever pesticides are used. For further information, contact Orica Watercare on 03 9283 6283 or visit our website www.ora-landguard.com



PGG Seeds is a leading turfgrass breeder and producer of fine turfgrasses for Australasia.

PGG Seeds specialises in breeding turfgrasses that are climatically adapted to our environment and which have shown over time to be more persistent, drought tolerant and will germinate much faster than other varieties.

This year we will have Bill Walmsley on our stand. Bill recently joined PGG Seeds as a turf agronomist after spending 27 years with the New Zealand Sportsturf Institute as a turf consultant. Bill's wealth of knowledge about turf management and in particular turf nutrition is a great asset to PGG Seeds and we welcome anyone who wishes to have a chat with him.

Also on our stand is our plant breeder Stephane Charrier. Feel free to come and talk with Stephane about what is coming through the breeding program over the next few years.



Rain Bird has been designing and manufacturing a full line of irrigation equipment for over 65 years.

With a continuing commitment to product development for the golf course market, Rain Bird leads the way with EAGLE™ gear drive rotors including the EAGLE 1100/1150 series, field controllers featuring an easy-to-use plastic pedestal, map-based central control irrigation systems with optional Smart Pump™



flow management software, decoders, pump stations, swing joints, flow meters, valves and irrigation accessories.

Rain Bird central control components are also serviced and supported by a comprehensive Global Service Plan (GSP). To complete the package Rain Bird also offers a range of pump stations for golf course irrigation needs. These products are sold and installed via a network of preferred golf contractors throughout Australia.

For further information regarding Rain Bird's expertise in golf course irrigation systems, contact Rain Bird Australia Pty Ltd on 1800 424 044 or visit us at www.rainbird.com. We look forward to seeing you and talking with you in Echuca-Moama.

REDEXIM CHARTERHOUSE



Redexim Charterhouse, recognised globally as the leader in deep tine aeration equipment with its range of VertiDrain and VertiCore machines, is about to set new standards with the introduction of new models in 2005.

These include a 7007 Hydrostatic self-propelled 0.7 metre model, a 1m version of the popular Mustang range, and the 'big daddy' 7626 which has been developed to accommodate the needs of contractors and municipal applications.

Boasting a working width of 2.6m, weighing 1880kg with an extra heavy duty gearbox and penetration to 400mm, it sits above the very successful 7526 as the largest in the range. Two additional models will be released later.

2005 also sees new 1.5m and 1.7m seeders added to the Proseed range together with a new self-propelled machine for confined areas.

The SpeedSeed now has an operating width of 1.6m and the ability of producing 940 or 1850 penetrations per sq/m with only a 20hp tractor requirement.

Add to these the 1.5m, 1.6m and 2.08m Disk Over Seeders with medium tractor size requirements and new Rink Top Dressers, including an exciting self-propelled 1.5m model with 0.5cu/m hopper capacity.

For more information come to stand 20 or see advert on page 51.



THE SCOTTS COMPANY

...The Scotts Difference.

Scotts Australia, part of the global Scotts Company, has offices in Australia and New Zealand and a turnover exceeding US\$2 billion annually. Locally, Scotts Australia has been servicing the professional turf market for over a decade now and is a recognised leader in the industry, producing and supplying specialty fertilisers and pest control products.

The Scotts range of slow release and controlled release fertilisers, such as Sierrablen® and Sierraform®, have become the benchmark for the industry. Recent releases in turf plant protection products include Maxguard 2G® and Maxguard 80 SC® insecticides, while in wetting agents, products such as Hydraflo G®, Hydraflo L® and Hydraflo NPK® service the market.

The latest introduction from Scotts is Sierraron®, a pre-emergent herbicide offering total, season-long weed control for up to six months. Sierraron is a non-selective granular herbicide, which is non-hazardous.

Scotts will once again sponsor the 2005 AGCSA Distinguished Service Award. At Scotts we strive for excellence and quality from manufacture through to the end user. The Scotts range of turf products is results oriented so if it's a Scotts product, you know it will work. You can rely on the Scotts philosophy – A world of local knowledge™.



Simplot ProLine is proud to be supporting the 2005 21st Australian Turfgrass Conference in Echuca-Moama.

Simplot ProLine prides itself on being specialists in granular (BEST) fertiliser and liquid (LIQUIMAXX, SIGNATURE) nutritional products. This year we are introducing something new to the Australian turf industry, something that will change the way you approach the summer season. Come and see us on our stand and find out why summer will never be the same again.

Simplot ProLine will be running the same competition as we did last year, giving away a study tour of the Golf Show in New Orleans, USA in February, 2006. Talk to one of our



representatives to find out how to enter.

Also don't miss our Grass Roots Tour Blues night at the Moama Sports Club featuring Kevin Borich Express.

We look forward to seeing you all there!

SYNGENTA

The Syngenta turf team is committed to being the leading provider of innovative products, new chemistry and services which best satisfy our customer needs in the production and care of turfgrass.

As the knowledge leader in turf, our stand will provide you with the latest in innovative technology and turf management information. Local and international Syngenta experts will be on hand to provide advice and recommendations on your turf issues.

Our innovative online resource, Greencast, developed specifically to give turf managers the competitive edge in turf management, will be available for use at the stand. We will also have an exciting new product demonstration to reveal!

There are prizes to be won, a wealth of information to be shared and giveaways galore. So we look forward to catching up with you in Echuca-Moama for a chat about your turf. Come and see us at stand number 28.


TORO

Toro® is a world leader in the design and manufacture of automated irrigation systems and commercial turf maintenance equipment. Its comprehensive, integrated solutions totally meet professional turf management needs.

Golf course superintendents look to us as the best single source for total turf management solutions.

Toro Australia is proud to be affiliated with the majority of Australia's top golf courses and sporting venues, as Toro has grown to be recognised as the only worldwide provider of both turf care maintenance equipment and irrigation systems to match.

By choosing Toro, you are assured satisfaction with innovation, environmentally sound turf management products backed by one of the best service and support teams in the industry.

Toro Australia is proud to be involved in the 21st Australian Turfgrass Conference and Trade Exhibition and we look forward to seeing you at Stand No.18. 

WITH BUNKERS THIS CLEAN, THEY WON'T AIM FOR THE GREEN!



The Delfino Walk Behind Sand Cleaning Machine is a versatile and compact sand sieving machine ideal for even the dirtiest of bunkers. You won't need to replace the sand in your bunkers to achieve a perfect result every time.

The Delfino has been specifically designed to work in confined areas (even pot bunkers) while being economical enough to do even the largest of fairway traps. The only problem you'll find is getting the players out of the bunkers long enough for you to clean them!

Now distributed by Globe

Go with Globe 

Free call: 1800 244 300



John Neylan outlines the work AGCSATech has done in conjunction with the AFL during its pre-season Wizard Cup competition, and highlights an important survey the AGCSA will conduct on golf courses using treated effluent for irrigation.

AFL REGIONAL VENUES

The Australian Football League as part of its pre-season Wizard Cup competition uses regional venues around Australia for practice matches as teams are eliminated from the main competition. The AFL uses these practice games to promote the game around Australia and the allocation of these games is much sought after and greatly anticipated by the local communities.

AGCSATech has worked closely with the AFL since November last year by inspecting the proposed venues and providing advice on the suitability of the playing surfaces and what improvements were required for elite level sport. The venues used include; Bendigo (VIC), Morwell (VIC), Newcastle (NSW), Lavington (NSW), Carrara (QLD), Alice Springs (NT), Port Lincoln (SA), Joondalup (WA) and Moorabbin (VIC). We were pleased to have the support of Peter Ruscoe and Ken Johnston (Sportsturf Technology) and Daryl Sellar as our representatives in WA and SA respectively.

The great challenge with many of these venues has been the crossover between cricket and football with the impact of summer conditions and in some areas water restrictions on the suitability of the surface for football. The assessment criteria for both the outfield and the wicket table, where they occurred, included levelness of the surface, grass cover,

surface stability and surface hardness.

Due to the hardness of some fields last season because of water restrictions, surface hardness was one of the key measurement criteria. The Clegg Impact Soil Tester (2.25 kg hammer) was used on all venues to ensure that the surfaces were within an acceptable range for AFL football. Hardness was measured at 18 locations (20 if there was no wicket) on the outfield and nine locations on the wicket table.

Wicket tables are a concern for AFL players, particularly when they are still being prepared for cricket. Most of the venues with cricket wickets moved cricket off the ground for a period of time to allow the turf to recover on the wicket block and to soften up the soil.

At Newcastle, where there was no opportunity to schedule a break in the cricket season, turf manager Peter Terry and his staff did an excellent job in preparing a suitable surface for football. Alice Springs also faced the same dilemma with football played five days after a four-day cricket carnival. Noted wicket guru Les Burdett (Adelaide Oval) provided his expertise to assist the local staff in presenting an excellent venue.

The expectations of clubs that are relegated to regional venues are that they will be subjected to "rock hard" goat tracks and there is always some negativity towards having



to travel. The feedback from the AFL and the clubs was very positive and the quality of the surfaces that were prepared was a credit to the ground managers and their staff.

The most obvious fact from these regional games is that attention to detail is essential to cater for elite level sport and that the level of resources required to achieve such a standard can be significant. In some cases the inputs (particularly mowing, levelling low sections and repairing turf etc.) were increased by more than 50 per cent.

TREATED EFFLUENT WATER SURVEY

Over the past three years, the AGCSA, in conjunction with Barwon Heads Golf Club and Horticulture Australia, has undertaken an effluent monitoring project at the Barwon Heads Golf Club on Victoria's Bellarine Peninsula.

The project has involved the extensive sampling and analysis of soils and water to assess the impact of effluent on the course, and has raised considerable interest from other golf courses using treated effluent for irrigation.

We have been fortunate to obtain additional funding to extend the project for another sampling period. Part of the additional funding has been allocated to undertake a survey of all golf courses using treated effluent to determine water quality, impact on soils and turf condition and any issues associated with the use and monitoring of treated effluent.

The challenge at this point in time is that we do not have a comprehensive list of all golf courses using treated effluent for irrigation. As a starting point the AGCSA needs to consolidate a list of all golf courses using treated effluent and other forms of waste water.

The results of the survey will be compiled in a database that can be accessed through the AGCSA website. There will be a list of golf courses contributing to the project and a compilation and analysis of the data published, however, the details for individual clubs will be kept confidential.

The success of this project is dependent on having as many contributors as possible and we would appreciate it if you could contact us as soon as possible. Superintendents at courses using treated effluent/waste water are asked to email me at john@agcsa.com.au or fax details to (03) 9548 8622 with their club name and contact details. The AGCSA will then send out a short survey for the superintendent to complete.

WATER SAMPLING

With more golf courses using treated effluent for irrigation, we are receiving increasing numbers of samples for analysis as part of the environmental monitoring program. However, the sampling techniques being used are not up to standard in some cases. The main problems relate to the size of the sample and the type of bottles used for sampling.

In some situations it is a requirement that samples are taken for biological testing (e.g. coliform and *E. coli* bacteria). If this is the situation you must use a sterilised bottle provided by the water testing laboratory.

When taking a water sample it is important that a clean, 1 litre plastic (PET) container (bottles that have contained soft drinks must be thoroughly cleaned before reuse) is used with a tight fitting lid.

The water samples are to be taken as follows;

- Prior to taking the sample, thoroughly rinse out the container with the water source to be sampled;
- Water from dams, rivers and streams need to be taken in deep water as far from the bank as possible and taken from a depth of at least 10cm;
- When taking water from bores, the pump must be run for at least 30-60 minutes to ensure that the sample is representative of the groundwater and not what has been sitting stagnant in the bore;
- From piped water supplies, open the tap or off-take point and allow it to run for several minutes so that the pipework is flushed out prior to taking the sample;

- Fill the bottle and allow for a 3-5cm air gap.
- Label the sample and provide written information with the sample on the date taken, source of the water and proposed use.
- Place the sample in a box and pad it with newspaper or other appropriate packaging.
- Send the samples by courier or overnight express post. If the samples have to be stored, keep them refrigerated but do not freeze.

If you have any queries or you want us to come out and show you how to sample or to organise the sample bottles, please do not hesitate to contact myself or Andrew on (03) 9548 8600. Remember that a good sample equals reliable results.

TPA CONFERENCE

I attended the Turf Producers Association (TPA) conference in Wollongong during April and it was a good opportunity to experience first-hand the operation of a new and emerging association. It was particularly interesting to observe the good relationship between people that are competitors in a very competitive market place.

The theme of the conference was one discussing the place of turfgrass in the urban environment and many of the speakers identified the challenges that the sod production industry faces from the 'modernist' approach to landscape design.

The influence of TV lifestyle programs is creating a more stark landscape where



Newcastle two days out from the Collingwood-Sydney match



The extreme effects salinity can have on couchgrass

turf is considered to be inappropriate. The conference forum strongly identified the need for the sod industry in particular and the turf industry (i.e. golf, sportsfields etc.) in general to promote the benefits of turfgrasses in a range of applications, and that they are not necessarily the water guzzlers as portrayed by the celebrity landscaper.

There were several presentations made at the conference and Professor Peter Martin was his normal eloquent self in his presentations. Peter spoke about turfgrass and its role in our society and in particular the history and function of lawn turf, how it fits within the framework of our community, its impact, economically, environmentally and socially.

Peter always manages to surprise and astound with his knowledge and history and made a remarkable link between the development of the steam train and its impact on lawns! Peter discussed the fact that the steam train allowed people that previously lived and worked in a cramped, smelly and smoggy London to move to the outlying regions where they had space for gardens and lawns. Who would have thought?

Prof Martin also spoke on the benefits of turfgrass in urban areas and in particular highlighted the “big 3” of erosion control, hydrological benefits and temperature control. Peter worked through the value of temperature control that lawns provide and demonstrated that for a concrete surface about 88 per cent

of the solar energy is radiated back into the environment further heating the air. In comparison, a lawn area radiates only about 25 per cent.

Dr Jeffery Krans from Mississippi State University spoke about genetically engineered turfgrasses and provided an explanation on how individual genes are introduced into different turfgrass species. Jeff spoke on the development of “Round-up ready” bentgrass and Buffalograss (*Stenotaphrum secundatum*) and their weed control advantages.

AUSTRALIAN WATER ASSOCIATION

I recently attended a seminar of the South Australian branch of the AWA to speak on managing salinity in turf. The focus of the seminar was on groundwater infiltration into sewers and its effect on effluent quality (salinity) for reuse for irrigation of urban open space and horticulture.

In Adelaide, groundwater at normal sewer depth tends to be saline and, due to infiltration, can make up to some 25-50 per cent of the sewage flow. This groundwater can more than double the salinity of the sewage taking it over 1000mg/L TDS and higher with the salinity of the effluent in the Port Adelaide area being around 9000 mg/L.

With salinity levels greater than 1000 mg/L this is challenging the sustainability of irrigation reuse projects. As Adelaide looks to effluent reuse as a significant proportion of its new

water supplies in the Water Proofing Adelaide study, the ability to control sewage salinity becomes a critical factor.

Dr Peter Dillon of Land and Water CSIRO is currently working with SA Water on the groundwater content of sewage in the Adelaide metro area and progress findings are that the salinity could be reduced by approx 30 per cent if groundwater is excluded. He also discussed the implications of the rise in the saline watertable as this water is excluded from the sewer. Peter is predicting that the watertable will rise in some areas to the surface which will impact on roads, building foundations and vegetation.

Dr Daryl Stevens of Arris Pty Ltd spoke about the concerns of rising salinity and its impact on horticultural irrigators, particularly where salt sensitive food crops are grown. Daryl also spoke about the impacts of salinity and sodicity on many of the fine textured soils in the Adelaide region.

I spoke on managing high salinity water applied to turfgrass areas and that turf generally has a greater tolerance to salts, sodium and chloride compared to many food crops. However, it was highlighted that salinity management on turf was a total package of using salt tolerant grasses, soil management and good irrigation practices.

This seminar highlighted once again the great challenges that we face in the future with deteriorating water quality for turf irrigation. 🌱

WHAT IS THE INDUSTRY'S FIRST HYBRID GREENS MOWER MISSING?

Only 102 potential leak points.



Introducing the run-all-day, 2500E Hybrid Tri-Plex Greens Mower.

As the industry's first hybrid greens mower, our new 2500E Tri-Plex is more than just an electric mower. It operates on a traditional engine that drives an alternator which powers electric reel motors to drive the cutting units. This industry exclusive design eliminates more than 90% of the most likely points while also reducing sound levels and increasing fuel efficiency. And because the 2500E is not dependent on battery power for run time, it can keep the same frequency of clip on every green.

**To see the difference a 2500E can make on your course's greens,
call your local John Deere Golf & Turf dealer on 1800 800 981
or visit www.deere.com.au**



JOHN DEERE



Smothering effect of moss on a bentgrass green



Moss can hinder consistent green speed



A matter of moss

With winter now upon us, Andrew Peart looks at the occurrence of moss in putting green surfaces and the various control techniques, both chemical and cultural, that superintendents can employ.

The occurrence of moss is not isolated and unfortunately is a common problem on many golf courses from the elite to the minor.

The current prevalence of moss in putting greens probably reflects recent trends in putting green culture, including extremely low mowing heights, minimal nitrogen fertiliser, increased use of sand growing mediums, intense sand topdressing and a loss of mercury fungicides (Cook et.al, 2002).

Mosses are primitive plants and differ from higher plants due to the fact they do not contain a vascular system (phloem and xylem). They also do not possess a root system but have structures called rhizoids that are filamentous outgrowths that anchor themselves to the ground that have the ability to absorb nutrients and water.

The most common type of moss that generally occurs in most putting greens is silvery thread moss (*Bryum argentum*). It generally occurs due to close mowing and forms a tight sward or mat known as the gametophyte. This generally produces a very soft surface that can quickly smother a nutrient deprived turfgrass.

Mosses have the ability to reproduce both sexually, via spores, and asexually. Mosses are more than likely introduced into a putting surface from spores, which can be blown in from great distances. Like many other weeds, moss is opportunistic and quickly colonises weak areas of turf upon germination.

Asexual or vegetative reproduction can occur as easily as a golfer walking over the

green and picking up a piece of moss on his or her spikes and depositing it unknowingly to another part of the green. This asexual means of reproduction means that moss should be controlled chemically before trying to physically remove it through actions such as scarifying as you may spread the problem.

The occurrence of moss is often a result of a subsequent stress. On putting surfaces it would appear that the first sign of moss may be in weak areas such as ridges and mounds where grass is thin because of scalping or drought stress. Therefore, the biggest asset in keeping moss out is to maintain a full grass cover.

Long-term moss control is a combination of effective chemical control as well as rectifying the causes why moss may have invaded the putting green initially. Chemical control of moss tends to be quite unpredictable and is probably due to the fact that the plant does not contain any vascular system.

Control therefore must be reliant on the applied chemical being absorbed under the correct conditions.

CHEMICAL CONTROL OPTIONS

Prior to the banning of mercury-based fungicides, these were regarded as the most effective options for moss control. Since the discontinuation of these fungicides many products have been used in an attempt to get consistent control. These products have included iron and copper compounds, fatty acid soaps, Daconil®, dichlorophen and benzalkonium chloride.

IRON PRODUCTS

Iron sulfate has long been regarded as an effective antagonist towards moss invasion. Handreck and Black (2002) state that an application of 20g/m² of iron sulfate combined with 5g/m² of ammonium sulfate can kill moss, but it is likely to return unless drainage and turf density are improved.

Cook, et.al (2002) found that under cool wet conditions, rates of 0.15 to 0.2 pound iron/1000 sq.feet (3.5-4.7g/m²) controlled moss marginally without injury or blackening of Providence creeping bentgrass. They suggest that ferric sulfate is more effective at killing moss than ferrous sulfate, but both require a series of five to seven treatments applied at two-week intervals.

Yelverton (2005) conducted experiments of iron products in 1999 and 2000 at two golf courses in North Carolina with and without Ronstar®. He found that 10 weeks after the initial application, both Ironizer (4-0-0+18% iron) and ferrous sulfate plus ammonium sulfate appeared to be more effective than Ironite (1-0-0 +12% iron) in reducing silvery thread moss.

It was concluded that these products were more successful due to the increased amounts of iron and nitrogen and the immediate release of the iron from the ferrous sulfate and Ironizer fertiliser than the Ironite product. The addition of the Ronstar® did not improve the effectiveness of any product.

The ferrous sulfate and ammonium sulfate were applied at 0.8 pound iron and 0.6 pound nitrogen per 1000 sq.ft (3.9g/m² and 2.9g/m² respectively). The applications had been applied twice in the first week and again twice four weeks after the initial application.

Landshoot, P. et al (2004) undertook trials with three rates of iron sulfate in a summer trial at rates of 0.2, 0.4 and 0.6 pound iron/1000sq.

ft (4.8, 9.6 and 14.4g/m²) between July and September of 2002. There were a total of five applications in total. They found the two higher rates had 90-95 per cent moss control but caused unacceptable turf injury. The lowest rate provided 75 per cent moss control and only slight blackening of the turf.

The same type of experiment was again conducted in the US fall (October – December) but only using the lowest rate (4.8g/m²). This rate provided about 45 per cent moss control with no serious turf damage.

COPPER PRODUCTS

Cook, et al (2002) found that copper sulfate caused severe turf injury at rates necessary for moss kill. They also found that copper soaps were extremely effective moss killers but toxic to turf, even at moderate rates.

Copper hydroxide and copper hydroxide + mancozeb (Junction®) are two copper based products that appear to be providing some effectiveness against moss.

Cook, et al (2002) stated that effective moss control was achieved with copper hydroxide and Junction® in western Oregon. Unfortunately there are no copper hydroxide formulations registered for the turf industry in Australia.

A downfall with copper applications can be an induced iron chlorosis caused by regular copper applications. Carson (2001) states that if yellow mottling (chlorosis) occurs apply iron sulfate or other iron products at 0.05-0.1 pound iron/1000sq.feet between copper treatments.

SOAPS

Carson (2001) reported that using dishwashing liquids straight from the squirt bottle resulted in contact kill of moss. However, no long lasting effects from spraying dishwashing liquids over large areas at a blanket rate were found.

DACONIL®

Yelverton (2005), found that Daconil® (chlorothalonil) with and without zinc was effective in reducing silvery thread moss populations.

Trials were conducted at two rates of Daconil without zinc (9.1 and 18.2kg/ha) and two rates with zinc (9.5 and 17.4kg/ha) in two water volumes.

No difference in control of silvery thread moss was observed among Daconil formulations, Daconil rates or spray volumes. These applications were all made during the summer months.

Yelverton (2005) also noted that Daconil Weather Stik® (without zinc) performed better on silvery thread moss when temperatures were above 26.6°C. Applications in cool weather have been shown to have limited effectiveness.

DICHLOROPHEN AND BENZALKONIUM CHLORIDE


These two active ingredients are registered for moss control in Australia. They are marketed as Surrender Mosskiller® and Kendocide®. Both have shown to provide effective moss control when used as directed on their labels.

CULTURAL STRATEGIES

For totally effective moss control, chemical control strategies must be combined with sound maintenance practices that encourage a dense cover of actively growing turf.

SOIL FERTILITY

Happ (1998), reports that a Scottish greenkeeper once said, "Moss is a sign of poverty in the soil." Happ states that there is a correlation between moss populations and potassium levels in the soil. Moss pressure seems to increase as K levels decrease. ►



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MOWING HEIGHTS

Low mowing heights tend to reduce the ability of the turfgrass plant to photosynthesise and hence place greater stresses on it.

Raising the mowing height from 3.0mm to 3.5mm can provide 16 per cent more leaf area and therefore a greater capacity for photosynthesis. The application of growth regulators or rolling can be utilised to maintain pace if the low height of cut is being simply employed for this reason.

Happ (1998), states that raising the mowing height as little as 1/32" has shown positive effects in reducing moss populations.

DRAINAGE

Wet surfaces are prone to moss invasion. This can be caused by poor drainage or excessive thatch accumulation.

Compacted soils can result in poor drainage as well as an excessive thatch layer that traps water at the surface.

Both symptoms can be partly alleviated with aeration of some description. Hollow coring and topdressing can help dilute thatch and with regular light dustings can provide a

thatch layer that is less likely to hold onto large volumes of water.

Deep tyne aeration such as vertidrainage can reduce compacted soils or subsurface drainage can be installed if water movement through the existing profile is being severely restricted. Other cultural practices may need to be addressed are irrigation practices, air circulation, traffic movement and shade occurrence.

CONCLUSION

Effective moss control is a combination of rectification of current cultural practices that may have contributed to its presence as well as sustained chemical intervention.

Research has shown that timing of chemical applications greatly influences the control obtained. The Daconil® applications seem to perform best under warmer conditions whereas the Junction® applications seemed to prefer the milder conditions. Applications of iron sulfate tended to produce phytotoxic effects on the turfgrass if applied during warmer weather.

However, with any product consistency of

use seemed to be the most important aspect.

The best ally in maintaining moss-free turf is to sustain year-round turf density and vigour and long term control can only be achieved by eradicating any underlying problems.

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Soil temperatures controlling creeping bentgrass growth

In a series of growth chamber experiments, US researchers were able to show that lower soil temperatures significantly enhanced the quality of Penncross creeping bentgrass. Soil cooling at night was more effective than cooling at daytime for maintaining quality creeping bentgrass exposed to high air temperature.

Creeping bentgrass grows most actively in spring and autumn, but often has the poorest turf quality during summer in warm climatic areas. Loss of turf has been observed on bent greens in many courses every summer. The problem attenuates as the use of bentgrass is extended further south.

Soil temperature is a critical factor controlling plant growth (Kuroyanagi and Paulsen, 1988; Xu and Huang, 2000a; Xu and Huang, 2000b; Xu and Huang, 2001). High soil temperature is more detrimental than high air temperature in causing growth and physiological inhibition of shoots and roots in creeping bentgrass (Huang and Gao, 2000; Xu and Huang, 2000a; Xu and Huang, 2000b; Xu and Huang, 2001).

Inhibitory effects of high soil temperature on turf growth are largely due to the limited root growth, nutrient and water uptake, and hormone (i.e. cytokinins) synthesis (Huang and Xu, 2000; Liu et al., 2002). Application of nutrients and cytokinins to creeping bentgrass under high soil temperatures could improve shoot and root growth, but could not reverse the adverse effects of high temperature (Liu and Huang, 2002; Liu et al., 2002; Fu and Huang, 2003). This suggests that resumption of growth by external treatments would be difficult once high soil temperature causes damage to the roots.

When soil temperature was lowered to 20°C, Penncross and L93 grown at high air temperature (35°C) maintained the same turf quality as those grown under optimum air and soil temperature conditions (Xu and Huang, 2000a, b). The results clearly demonstrated that reducing soil temperature is an effective means to prevent summer bentgrass decline. Cultural practices that can reduce soil temperatures would help improve turf quality during summer. However, reducing soil temperature to the optimum level (eg 20°C) from the supraoptimal level (eg 35°C) is difficult to be achieved by routine cultural practices.

Several questions should be addressed before effective management practices are developed to manipulate soil temperatures in order to prevent summer decline. First of all, the critical level of high temperatures in the rootzone that induce declines in growth and physiological activities are not clear. Secondly, the highest threshold of soil temperatures to be lowered to that is effective in maintaining high quality turf under high temperatures has not been determined. Finally, it is not clear when is the best time (daytime or nighttime) for soil temperature manipulation in improving shoot and root growth under high air temperatures.

This article summarises results of three independent studies to address the above.

DETRIMENTAL LEVEL OF SUPEROPTIMAL SOIL TEMPERATURES

A study was designed to determine the critical threshold of soil temperature that is high enough to cause decline in shoot and root growth (Pote et al., 2004). Nine creeping bentgrass cultivars (Penn A4, Viper, Penn G6, L93, Century, Crenshaw, SR1020, Putter and Penncross) were grown in clear polyethylene tubes (5cm in diameter and 50cm long) filled with sand.

The tubes were placed in a gradient soil-temperature chamber (100cm x 200cm x 50cm) to expose roots to a range of soil temperatures. Soil temperatures were increased from 20 to 35°C in 2-3°C intervals (20, 21, 22, 23, 25, 27, 31, 35°C) while air temperature was controlled at the low level (20°C).

Root number, dry weight and depth, active root biomass, turf quality, leaf cytokinin content, and canopy net photosynthetic rate (Pn), decreased in all nine cultivars as rootzone temperature increased from 20 to 35°C, but the time and temperature at which the decline occurred varied with growth or physiological parameters measured, but did not differ among cultivars.

At the same level of temperature, Penn A4, L93 and Century generally performed best, while Putter and Penncross had the lowest performance, and others were intermediate. Pn, cytokinin content, root number, and turf quality declined at 23, 27, 27, and 35°C, respectively, after four weeks of exposure. Active root biomass, root number, root dry weight, turf quality, and rooting depth declined at 23, 25, 25, 25, and 35°C, respectively, at 54 days of treatment.

Results in this study suggest that rootzone temperature of 23°C was the critical level for root activities, Pn, and overall turf growth. When soil temperature was higher, all growth and physiological parameters were negatively affected even if shoots were kept at optimum temperature (20°C).

LOWERING SOIL TEMPERATURES TO IMPROVE PERFORMANCE

This study was designed to determine the soil temperature that rootzones could be lowered to in order to maintain high quality turf and active root growth of creeping bentgrass when air temperature is high (Xu and Huang, 2001).

L93 and Penncross, were exposed to the following air/soil temperature regimes:

- Optimal air and soil temperature (20/20°C, control)
- Lowering soil temperature by 3, 6, and 11°C from 35°C (35/32, 35/29, 35/24°C)
- High air and soil temperature (35/35°C).

Soil temperature was reduced from 35°C by circulating chilled tap water in water baths surrounding the soil. Turf quality, leaf chlorophyll content, shoot growth rate, and root-to-shoot

ratio increased as soil temperature was reduced from 35 to 32°C. The increase was greater for Penncross than L93.

Significant increases in tiller density, clipping yield, root number and fresh weight were not observed until temperature was reduced to 29°C.

When soil temperature was reduced to 24°C, turf quality, shoot growth rate, and root-to-shoot ratio were maintained at the same level as the control.

These results suggested that reducing soil temperature by 3°C or more effectively improved shoot and root growth for creeping bentgrass under high air temperature. Lowering soil temperature was an effective means of improving turf quality, leaf chlorophyll content, shoot extension rate, and root number when air temperature was high. The effectiveness increased as soil temperature is reduced to a lower level.

EFFECTIVENESS OF REDUCING DAY & NIGHT SOIL TEMPERATURES IN IMPROVING PERFORMANCE

This study investigated whether reducing soil temperature during the night is more effective than during the day in improving shoot and root growth when air temperature is supraoptimal (Xu et al. 2003). Plants were exposed to the following temperature treatments;

- Optimal air and soil temperature during day and night (20/20°C, day/night, control);
- High air and soil temperature during day and night (35/35°C, day/night);
- Lowering soil temperatures during the day

(20/35, 25/35, and 30/35°C, day/night) while air temperature was maintained at 35°C during the day and night; and

- Lowering soil temperature during the night (35/20, 35/25, and 35/30°C) while air temperature was maintained at 35°C during the day and night.

Turf quality (on 1-9 scale) increased to the level of 6.5, 3.0, and 2.5 by reducing daytime soil temperature to 20, 25, and 30°C, respectively, at 28 days of treatment, compared to the quality of 2.0 at 35/35°C.

Turf quality increased from 2.0 at 35/35°C to 7.0, 6.0, and 4.5, respectively, by 28 days of exposure to nighttime temperatures of 20, 25, and 30°C.

Root number, length, and root weight also were increased by reducing daytime or nighttime soil temperature, and the increases were more pronounced for reducing nighttime temperatures than daytime temperatures.

The results demonstrated that reducing nighttime soil temperature was more effective than reducing daytime soil temperature in improving shoot and root growth in creeping bentgrass under high air temperature conditions. Soil cooling management should be practiced at nighttime to efficiently lower soil temperature.

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Avondale Golf Club's irrigation test bench

SETTING A BENCHMARK

As most superintendents will attest, finding and fixing problems with sprinklers, whether it be a weeping head or one that is stuck on full pressure, can be frustrating and time-consuming.

Invariably, once the irrigation system has been shut down, the offending sprinkler head located, removed, seemingly repaired and then replaced, the problem remains when the irrigation system is switched back on.

Superintendent David Warwick and the crew at Avondale Golf Club in Sydney have come up with a unique way to prevent this with the installation of an irrigation test bench located adjacent to the maintenance facility.

The bench is set up so groundstaff can test either valve-in-head sprinklers or those controlled by a solenoid, and is hooked up to the course's irrigation system and uses simple home irrigation system wires to control it.

Being connected to the regular irrigation system means that a repaired sprinkler can then be tested under normal working pressures to ensure that the problem is fully rectified before being reinstalled in the system.

Also, because the bench tests sprinklers above ground, groundstaff can see if there are any leaks and if all parts are working properly. The bench is also fitted with a tap to clean out parts.

The test bench was installed when Avondale upgraded its irrigation system seven years ago and Warwick says it has saved his crew countless hours when it comes to repairing any system problems.

"Having the bench means we can test everything back of the maintenance facility and ensure that it's working correctly before taking it back out," says Warwick.

"It has proven to be a very effective time-saver."

The bench is one of a number of innovations at Avondale. In Vol 6.5, ATM highlighted the club's trailer-mounted hose reel. 🌱

Syngenta recognises our innovative superintendents and is proud to present David Warwick at Avondale Golf Club with a \$150 AGCSA book voucher.

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Mosman Park superintendent Paul Johnston

Nickname: Johnno

Age: 30

Family: Wife Taryn.

Years as a superintendent: 5 ½

Years as an AGCSA member: 5

Current Club: Mosman Park, 5 ½ years

Previous Clubs: Hartfield Country Club

Number of staff: 2

Course specs: 9 holes, 5894m, par 72; All

greens and some tees are Santa ana; Fairways, tees and surrounds are kikuyu.

Favourite piece of machinery? Rain Bird Freedom Radios.

Most embarrassing moment as a super? Crashing the ute into a tree at night while chasing vandals.

Funniest moment seen on course? A runaway ride-on golf buggy airborne into a bunker with golfer still sitting on it.

Plans for the course over the next two years? Redevelopment of as many tee boxes as possible.

Best advice you have ever received? Get on your hands and knees son and have a real good look.

One thing about your job you would change? I would make the sun come up later.

Best part about being a super? The sheer variety of things we find ourselves doing.

Worst excuse from a staff member? I thought it was Sunday.

Favourite spot on the course? My house next to the 12th tee facing the river.

Career highlight? Getting the new irrigation

system installed at Mosman Park.

The overseas course you'd most like to visit? St. Andrews.

Favourite movie? Flying High.

Name 3 CDs you could not live without. Frenzal Rhomb 'Meet the family'; The Hard Ons 'Yummy'; Nirvana 'Bleach'.

If you could be any musician, who would you be? I would play in any band behind Joss Stone.

Come the revolution, which celebrity would be first before the firing squad? That bloke on the Napisan ads.

Sporting team you despise? Fremantle Dockers.

Dream car? Cessna 441.

What book are you reading now? Basic Aeronautical Knowledge.

Irritations? Cheesy R&B music.

Favourite golfer? Adam Scott.

What do you do to get away from it all? Fishing up at the beach house at Ledge Point.

Food you could not live without? Fried rice.

Favourite sporting team? West Coast Eagles.

Golf handicap? Yes it is, isn't it. 🏌️

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2005 JOHN DEERE WORLD CHAMPIONSHIP TEES OFF

The 2005 John Deere World Championship teed off in May with Brisbane-based Nudgee Golf Club hosting the first of six Australian qualifying events. And the competition proved to be pretty fierce with four teams tied following 18 holes.

Host club Nudgee (led by superintendent David Brushfield) finished even with Wynnum Golf Club, Redcliffe Golf Club and McLeod Country Club. However, it was the McLeod Country Club team of Cecily Boyd, Fran Poultney, Earl Warmington and Daniel Clarke which won on a countback ahead of the team from Redcliffe.

The day also featured a hole-in-one by Wayne Bridgeman, manager of Gympie Pines Golf Course on the 16th.

Both McLeod and Redcliffe progress through to the Australian final which will be

held at Moonah Links on 15-16 September. The winner of the national final will then be invited to represent Australia at the World Final to be held at the PGA West Golf Club, Palm Springs, California, USA from 7-10 December.

2004 Australian champions, Branxton Golf Club, are the defending world champions and will get their chance to repeat that feat when the Newcastle qualifier is played in July.

The next qualifier to be held is in Adelaide at Kooyonga Golf Club (superintendent Stephen Newell) on 27 June. Other dates and venues for the qualifying series are; Newcastle, 12 July (Easts Golf & Leisure); Perth, 1 August (The Sanctuary Golf Resort); Melbourne, 26 August (Kingswood Golf Club); Sydney (TBC).

Developed as a way of building

relationships in the golf and turf industries, the John Deere World Championship brings together the four main decision-makers within a club – the superintendent, club captain/president, manager and professional.

The championship is also run in conjunction with the AGCSA, and John Deere contributes \$25 for each team that competes to the association for its various research projects conducted across the country.



APRIL ANOMALIES

April 2005 will go down in the history books as the warmest April recorded since 1950 according to Bureau of Meteorology statistics.

Continuing with the warm start to the year, which has seen more than 150 high temperature records set from January to April, both Tasmania and Sydney actually experienced an April that was warmer than March. Sydney experienced its warmest April in 146 years.

April rainfall was much below average for most of the country and the Australia-wide average for the first four months of 2005 was the second lowest on record.

For the four month period from January to April, serious to severe rainfall deficiencies developed in parts of southern Queensland, northern NSW, parts of South Australia and northern Tasmania. Areas with lowest on record totals for this period are evident in southern Queensland and northern NSW.

NSW

Sydney recorded its warmest April since records started 146 years ago. The average temperature was 20.9 degrees, nearly two degrees above the historic average of 19.0. The previous warmest April was in 1968 with an average temperature of 20.7.

The average April temperature exceeded the March average by 0.3 degrees, the first time since records started in Sydney in 1859 that average April temperatures were warmer than March.

Sydney's total April rainfall of 33mm

recorded at Observatory Hill was well below the historic average of 127mm. Coastal suburbs fared slightly better than western suburbs with metropolitan rainfall totals varying from 55mm at Avalon to only 12mm at Badgerys Creek.

VICTORIA

Victoria experienced its warmest April in 50 years. Temperatures were much higher, averaging 3-4 degrees above normal.

As for rainfall, the Mallee, Wimmera, North Central and Northern Country districts received only between 5mm-10mm while the southern districts only fared slightly better, averaging between 20-30mm. There was one significant rainfall event for the month in which Melbourne recorded 22mm in 24 hours.

ACT

Canberra recorded its highest April mean maximum temperature on record in a month when rainfall was the fourth lowest for April on record. Only 6.8mm of rain was recorded at Canberra Airport, significantly below the average of 47.7mm. Average daily sunshine in April was well above normal with 8.6 hours compared with the long-term average of 7.1. Total evaporation was 130.8mm, also well above the average of 107.8mm.

WESTERN AUSTRALIA

In contrast, Perth experienced a relatively cool and dry April. Perth rainfall was below average with 27.8mm recorded. Total rainfall for January to April this year was 83mm compared with the average of 86mm.

SOUTH AUSTRALIA

Adelaide's rainfall for April was 3.2mm recorded over four days. This was 35.5mm below the normal of 38.7mm over eight days. It was the driest April since 1993 when 1.4mm was recorded.

Adelaide's total rainfall for the first four months of 2005 was 62.2mm compared with the historical average of 97.9mm.

Temperatures were also well above average across South Australia, in some cases with maximums 4-5 degrees higher.

TASMANIA

Tasmania recorded one of its warmest Aprils on record. Average maximum day-time temperatures were above normal in some cases by two degrees. Rainfall was close to normal in most parts of Tasmania, although it was well down in the far southeast.

The warm weather combined with only moderate rainfall has put further pressure on soil moisture which has been severely reduced in recent months, especially in the northwest. Many sites in the northwest (including Burnie, Wynyard and Barrington) have had their driest September-to-April period on record.

NORTHERN TERRITORY

Darwin rainfall totals were well below average for April, with 68.6mm compared to its April mean of 98.9mm.

Further south, Alice Springs received no rainfall leaving it with an 11-month tally of only 37mm, its lowest for the period June to April inclusive since 1964. 🌵

APPOINTMENTS

After nine years as assistant superintendent and a total of 20 years at Tocumwal Golf Club, Michael Desaiely has made a radical departure from the turf industry.

Tocumwal superintendent Matthew McLeod has informed ATM that his 2IC has decided to join the police force and has spent the best part of April and May at police academy. "He's gone from dodging golf balls to dodging bullets," quipped McLeod. "We only hope he doesn't return here or else he'll book the lot of us."

Desaiely's departure means that senior groundsman Gary Bushby (formerly of Murray Downs) has been promoted to assistant superintendent at the 36-hole course based adjacent to the Murray River.

The RAAF Williams Base Laverton Golf Club in Melbourne's West has appointed 30-year-old Damien Truslove as superintendent. Truslove did his apprenticeship at Greenacres Golf Club and spent four years at Maryborough Golf Club and a year at Northcote Public.

Speaking of RAAF Williams, the club's former superintendent Mark Findlay has moved a couple of suburbs over to take up the superintendent position at Sunshine Golf Club. Findlay spent six years at RAAF and joins Sunshine as the club is about to enter a new phase with the construction of a brand new course in Mt Derrimut.

Steve Pellett has been appointed as assistant superintendent at Blackwood Golf Club under SAGCSA president Peter Harfield. As well, Ron Kohlenberg has been appointed as the new Blackwood mechanic. Pellett is the former superintendent at Mt Lofty Golf Club and replaces assistant of five years Dean Vick who has left the industry.

Nicholas Dodd has been appointed as superintendent at the Melbourne Airport Golf Club with assistant David Hackney.

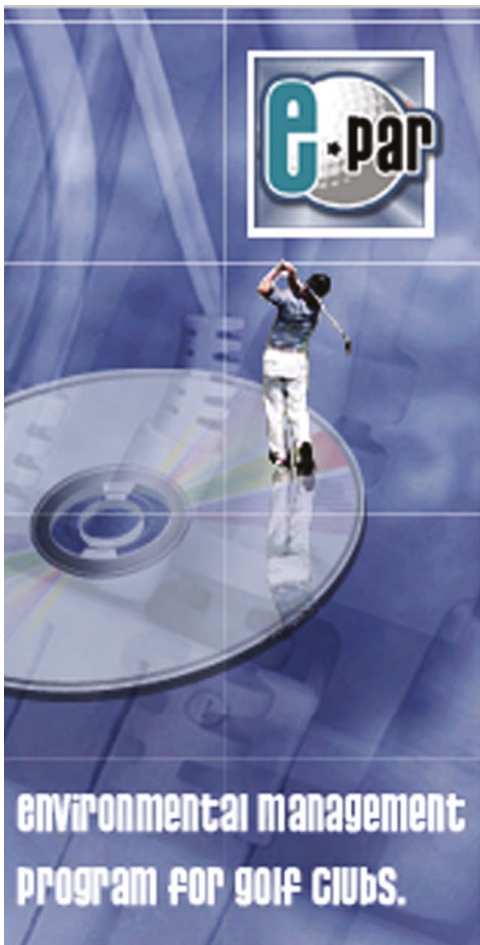
After standing down as NSWGCSA president and departing Carnarvon Golf Club earlier

this year, Craig Easton has started in his new position as territory manager for Nuturf.

The heat and humidity has proved too much for Shane Bisseker who has departed the Darwin Golf Club after four years to take up the position of superintendent at Helensvale Golf Club on the Gold Coast.

And finally, having recently turned the big 50, The Dunes superintendent Mark Gahan has left the Mornington Peninsula based course after 12 years as superintendent. Gahan, who was also construction superintendent at 13th Beach, has recently completed a turf management degree at the University of Sydney under Prof Peter Martin and in May joined respected architect Tony Cashmore at Cashmore Golf Design as a consultant.

If you know of any new appointments, then ATM would like to know about them. Contact editor Brett Robinson on (03) 9548 8600 or email brett@agcsa.com.au



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HYBRID 2500E TRI-PLEX AT THE CUTTING EDGE

John Deere has released the industry's first hybrid triplex greens mower, the 2500E.

Released in Australia in April, it features electric reel motors that significantly reduce hydraulic leak points, lower sound levels and increase fuel efficiency while maintaining a high quality of cut.

Quiet, efficient electric reel motors replace the reel hydraulic pump, hydraulic motors, backlap valve, oil cooler and all associated hoses, fittings and hard lines. This eliminates more than 100 of the potential leak points.

While the word 'electric' has traditionally been perceived by the industry as meaning less power, the 2500E operates on a traditional diesel-powered engine that drives an alternator, which powers electric reel motors to drive the cutting units. This constant power from the alternator allows the 2500E to be used for verticutting and overseeding operations. It also means no batteries to charge.

The 2500E is equipped with a diesel-



The new John Deere 2500E

powered 18-hp, three-cylinder John Deere Series 220 engine. The advanced electrical reel system allows the cutting units to be powered independently of the traction speed, unlike hydraulic reel circuits.

This allows users in sound-sensitive areas to reduce engine RPM without slowing reel RPM, reducing sound levels while maintaining cut quality and productivity. This type of operation can also reduce fuel consumption by an average of 10 per cent.

The three 22-inch (55.9cm) cutting units

are available with either seven- or 11-blade reels and an optional smooth or grooved front roller. Featuring a bedknife-to-reel design, the patented offset cutting units provide reduced wear on the cleanup cut area and offer a clear view of all three units.

By reversing the direction of the cleanup cut, the operator can eliminate the ring that is typically left with a triplex. All adjustments can be made with a 16mm wrench and are positioned for easy access; and height of cut can be adjusted from 2-32mm.

The 2500E comes standard with the patented John Deere White Box™ controller, allowing quick, on-board electrical diagnosis by the technician. Additionally, the 2500E offers Sit-on-Seat (SOS) diagnostics that provide assistance to the operator to ensure that safety circuits are met. The 2500E comes standard with onboard backlapping.

For more information, contact a local John Deere Golf and Turf dealer on 1800 800 981 or visit us on www.deere.com.au.



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ASP BLADE CATALOGUE ONLINE

Brisbane based wear resistant parts supplier, ASP (Alloy & Stainless Products) now has an online version of its parts catalogue on the ASP website www.asproducts.com.au.

ASP director Kevin Weston said updating the company's website with their full wear resistant parts catalogue was a major development in their customer service.

The online catalogue will give end users as well as dealers in the turf and agricultural industries access to a comprehensive database of specifications, OEM cross references, and illustrations to make product selection easy and accurate. Users can search by OEM type, product type and part numbers, plus key words to easily identify the parts they need.

Weston said the company's range of mower blades, slasher blades, flails, trimmer line, discs, and cultivation tools etc had continued to expand at a very fast pace with more than 60 new blades added for this season.

For full details of the ASP range, visit the ASP website on www.asproducts.com.au or contact the ASP Wear Parts Superstore direct on (07) 3881 3464.

E-par Holes Environmental Accolades

E-par, a golf course environmental management program by Environmental Business Solutions (EBS) has scooped a major environmental award in NSW.

The brainchild of EBS owner Terry Muir, E-par was named the overall winner at the Newcastle and Hunter Environmental Achievement Awards held in Newcastle in April. In collecting the award, E-par also won the 'best product and service' and 'best policy and planning' categories.

The awards were judged by the EPA, local council officers and representatives from an environmental legal firm.

In his acceptance speech Muir spoke highly of the turf industry's commitment to environmental management and how it is working towards establishing itself as the centre of golf course environmental excellence.

Muir, a former EPA investigating officer and champion of environmental management programs for golf courses,



recently worked in conjunction with the AGCSA and Enviro Solutions in the National Chemical Spill Exercise workshops which travelled the country.

To contact Terry Muir email terry@ebsnet.com.au or phone (02) 4927 8443.

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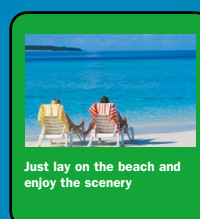
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announced in the August Golden Globe newsletter.

Should you require further information on the Globe Soil Analytical and Disease Diagnostic Services contact your local Globe Representative.

Phone 1800 244 300.

Authorised under NSW Permit No. TPL05/4412 ACT Permit No. TP05/1659 SAT05/1600 Promotion commences 5/5/05. Entries close 15:00 AEST on 29/7/05. The draw will take place at 87 Allingham Street, Condell Park, NSW 2200 on 3/8/05 at 15:00. Winner will be notified by mail and their name will be published in The Australian on 22/8/05. The first valid entry drawn will win a weekend trip for 2 people to the Gold Coast, QLD valued at up to \$1,500 depending on point of departure, including return economy airfares from winner's nearest capital city (if necessary), 2 nights twin share accommodation (either on a Friday and Saturday night, or a Saturday and Sunday night) and dinner on one night. The Promoter is Globe Australia Pty Ltd of 87 Allingham Street, Condell Park, NSW 2200. A.B.N. 75 001 429 714.

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MEMBER BENEFIT FOCUS

In 2000 the AGCSA decided to form its own agronomic wing to provide members with expert diagnostic and analytical services. One of Australia's most respected agronomists John Neylan was brought on board to head up the division and in 2002 he was joined by technical officer Andrew Peart.

In that short period of time, AGCSATech has grown to become one of the foremost providers of agronomic services to the Australasian turfgrass industry. Its reputation has also grown worldwide and a number of golf courses in the Middle East and the South East Asia regions now call upon AGCSATech to provide agronomic advice.

AGCSATech is a self-funding division of the AGCSA that enables the association to embark on research programs directed at providing independent data and solutions to some of the most important problems confronting superintendents.

AGCSA members can take advantage of an exclusive 20 per cent discount on all analytical services such as soil nutrient and soil physical tests and disease and pest diagnosis.

For a full outline of the many services AGCSATech provides, visit the AGCSATech section on the AGCSA website www.agcsa.com.au. There you will find a rundown of services provided, contact information for John and Andrew, as well as important information regarding sample size.



John Neylan (left) and Andrew Peart

THE AGCSA: WORKING FOR YOU

The AGCSA is committed to providing greater resources to enhance its leadership, unification and professional development of the Australian turfgrass industry and its members.

Membership of the AGCSA enables golf course superintendents as a collective unit to have their say on matters such as education, turf research, legislation and industry development.

During 2004, the AGCSA undertook a major redesign of its website for the use of all members of the turf industry. The AGCSA believes that this medium is becoming a vital communication tool for the industry and something which members need to become familiar with.

The new-look website features a special 'Members Only' section, where special offers available only to AGCSA members will appear. Members will also be able to update their contact details in this area.

In July 2004, the AGCSA and Toro Australia signed a unique agreement to help foster the next generation of superintendents and turf managers.

Toro has put its name to the Next

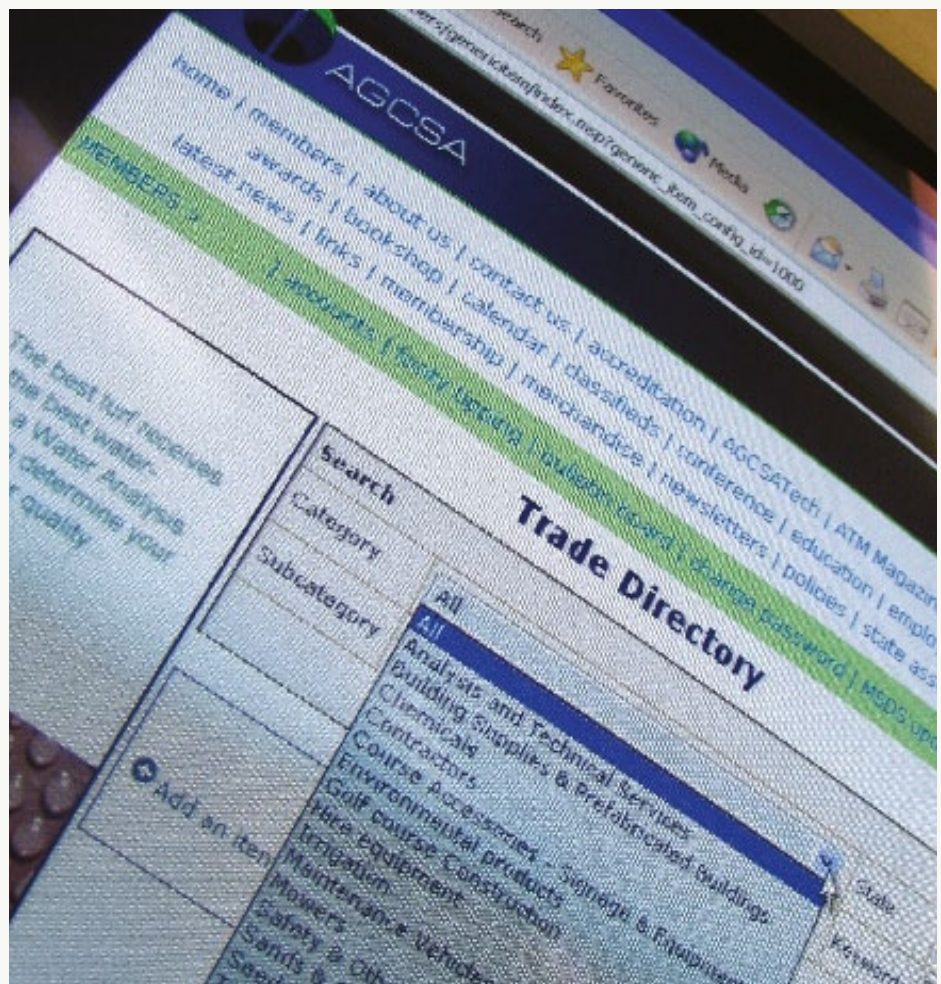
Generation membership program which will provide numerous incentives for student members of the AGCSA.

As it stands, the price of an AGCSA student membership is \$77 per annum. However, under the Next Generation membership scheme, existing and new student members of the association will only pay half that amount (\$38.50), with Toro footing the balance.

The program is expected to develop a national turf management career day, access to overseas exchange programs, tournaments and regular educational tours.


Other membership benefits include:

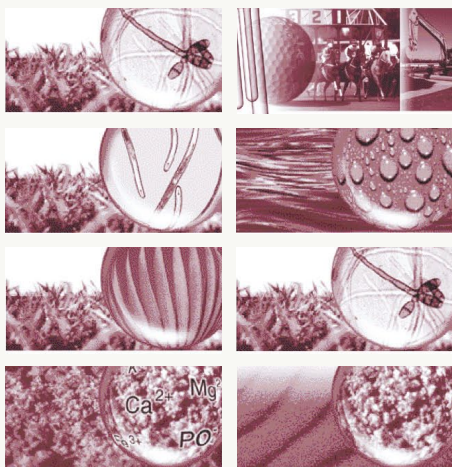
- Six editions of the bi-monthly AGCSA journal Australian Turfgrass Management magazine, the No.1 turf industry publication;
- AGCSA year planner and turf diary (new in 2005)
- AGCSA members gift;
- Access to the AGCSA 'Members Only' and Online Auction sections of the AGCSA website;
- Regular AGCSA newsletter and Turf News email newsletter;



- Reduced registration fees to the AGCSA conferences and roving workshops;
- Member discounts on soil and water testing, disease diagnosis and other analytical services through AGCSATech;
- Discounted books from the extensive AGCSA bookshop;
- Discounted AGCSA merchandise;
- Free legal service provided by Madgwicks Solicitors providing up to half an hour free legal advice on any subject;
- Regular mail-outs of positions vacant within the industry. Job Watch email alert service;
- Access to AGCSA Contracts of Employment;
- Regular opportunities to meet with your peers and the allied turf trades;
- Access to AGCSA Skills Recognition Program, Accreditation Program and AGCSA endorsed qualifications;
- Opportunity to be involved in the Australian Open Course Quality Officials program; and
- Clearmake Industries offers AGCSA members a 10 per cent discount on all products and services company-wide. Products available include oil water separators, water recycling plants, gross pollutant traps, rope mop oil skimmers and diversion and spill control valves.

If you have any questions or queries about becoming an AGCSA member or about any of the above listed membership benefits, please do not hesitate to contact Paula Dolan, membership services and administration co-ordinator, on (03) 9548 8600 or email info@agcsa.com.au.

You too can discover how the AGCSA can assist and make a difference in your future endeavours within the turf industry. 



AGCSA

Membership Application Form

Secure your career in the turf industry...

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Membership Application Form

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Club/Organisation:

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MEMBERSHIP PAYMENT

Membership payments for any of the above classes are to be sent to the AGCSA.

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Golf Course Maintenance Company.....	\$310
Consultant.....	\$310

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Company.....	\$277
Retired Member.....	\$130
Ground Staff - Non Golf.....	\$130

State Membership

NSW - New South Wales Golf Course Superintendents Association	\$77
QLD - Golf Course Superintendents Association of Queensland	\$88
SA - South Australian Golf Course Superintendents Association	\$65
TAS - Tasmania Golf Course Superintendents Association	\$120
WA - Golf Course Superintendents Association of Western Australia . Please call 08 9455 5195	
VIC - Victorian Golf Course Superintendents Association	Please call 5975 6826

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Email: info@agcsa.com.au



TURF INDUSTRY BOOKSHOP

GENERAL	Non-Member	Member
A Field Guide to Australian Frogs.....	\$56.90	\$48.37
Arboriculture – 4th Edition	\$202.05	\$171.74
Modern Arboriculture	\$228.45	\$194.18
2005 Turfgrass Management Diary	\$86.25	\$73.31

GOLF	Non-Member	Member
Practical Guide to Ecological Management on the GCourse	\$87.04	\$73.98
Best Golf Course Management Practices	\$316.25	\$268.81
Bird Conservation on Golf Courses	\$94.88	\$80.65
Discovering Donald Ross-The Architect & his golf courses.....	\$300.49	\$255.42
Ecological Golf Course Management	\$197.68	\$168.03
Golf Architecture	\$115.00	\$97.75
Golf Architecture in America.....	\$276.79	\$235.27
Golf Course Architecture -Design, Construction & Restoration.....	\$245.17	\$208.39
Golf Course Construction, Renovation and Gro-In.....	\$196.38	\$166.92
Golf Course Design	\$221.38	\$188.17
Golf Course Irrigation: Environmental Design & Mgmt Practices	\$221.38	\$188.17
Golf Course Management & Construction.....	\$445.63	\$378.79
Golf Course Tree Management	\$150.99	\$128.34
Golf Facility Planning	\$222.86	\$189.43
Golf Has Never Failed Me	\$107.86	\$91.68
Human Resource Management for Golf Course Superintendents.....	\$126.50	\$107.53
IPM Handbook for Golf Courses	\$197.68	\$168.03
Keepers of the Green: A history of GC Management	\$150.29	\$127.75
Managing Wildlife Habitats on Golf Courses	\$150.29	\$127.75
Masters of the Links	\$87.04	\$73.98
Practical Golf Course Maintenance –Magic of Greenkeeping.....	\$173.99	\$147.89
Rough Meditations (HB)	\$87.04	\$73.98
Superintendents Handbook of Financial Management	\$126.50	\$107.53
The Care of the Golf Course – 2nd Edition.....	\$166.06	\$141.15
The Golden Age of Golf Design	\$221.38	\$188.17
The Golf Course -Planning, Design, Const and Management-HB only	\$366.61	\$311.62
The Good Doctor Returns Alistair Mac comes back to golf	\$71.18	\$60.50
The Life & Work of Dr Alistair Mackenzie.....	\$215.63	\$183.29
The Links.....	\$189.75	\$161.29
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The Sandbelt.....	\$143.75	\$122.19
The Spirit of St Andrews	\$102.81	\$87.39
Turf Management for Golf Courses.....	\$363.74	\$309.18
Wastewater Re-use for Golf Course Irrigation	\$316.25	\$268.81

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Growing Media for Ornamental Plants and Turf	\$94.88	\$80.65

TURF & WEEDS	Non-Member	Member
Australian Weed Control Handbook - 10th Edition.....	\$110.74	\$94.13
Biological Control of Weeds	\$142.36	\$121.01
Bowling Greens:The History Construction & Maintenance.....	\$145.24	\$123.45
Color Atlas of Turfgrass Diseases.....	\$261.63	\$222.39
Color Atlas of Turfgrass Weeds	\$309.11	\$262.74
Compendium of Turfgrass Diseases	\$205.61	\$174.77
Controlling Turfgrass Pests 2nd Edition.....	\$337.86	\$287.18
Creeping Bentgrass Management - Summer stresses.....	\$184.00	\$156.40
Cricket Grounds	\$208.49	\$177.22
Cricket Wickets – Science vs Fiction	\$115.00	\$97.75
CSIRO Handbook of Australian Weeds	\$79.11	\$67.24
Destructive Turfgrass Insect - Biology, Diagnosis & Control.....	\$258.75	\$219.94
Diseases of Turfgrass	\$345.00	\$293.25
Diseases of Turfgrass CD-Rom	\$316.25	\$268.81
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Managing Bermudagrass Turf	\$229.31	\$194.91
Managing Turfgrass Pests.....	\$323.49	\$274.97
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Native Grasses: Handbook for Temperate Australia 3rd Ed.....	\$35.88	\$30.50
Natural Turf for Sport & Amenity.....	\$173.99	\$147.89
Noxious Weeds of Australia –Revised Edition	\$280.36	\$238.31
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Salt-Affected Turfgrass Sites - Assessment & Management.....	\$221.38	\$188.17
Sands for Sports Turf Construction & Maintenance	\$79.11	\$67.24
Seashore Paspalum – The Environmental Turfgrass.....	\$213.54	\$181.51
Sports Fields –Manual design, Construction & Maintenance.....	\$253.00	\$215.05
Sportsturf Protection Manual -		
The Complete Guide Guide to all Turf Protection Products	\$253.00	\$215.05
Sports Turf & Amenity Grasses -A manual for use & Identification	\$122.24	\$103.90
Sports Turf - Science, Construction & Maintenance	\$316.25	\$268.81
The Turfgrass Disease Handbook	\$173.99	\$147.89
Tree, Turf, Ornamental Pesticide Guide	\$115.00	\$97.75
Turf Irrigation Manual.....	\$179.74	\$152.78
Turf Weeds and Their Control (HB).....	\$313.38	\$266.37
Turfgrass Diseases & Associated Disorders	\$115.00	\$97.75
Turfgrass Maintenance Reduction Handbook.....	\$309.11	\$262.74
Turfgrass Management-7th Edition.....	\$284.63	\$241.94
Turfgrass Management Information Directory	\$126.50	\$107.53
Turfgrass Patch Diseases.....	\$194.11	\$164.99
Turfgrass Pests.....	\$94.88	\$80.65
Turfgrass Problems: Picture Clues & Management Options.....	\$115.00	\$97.75
Turfgrass Science & Culture.....	\$284.63	\$241.94
Turfgrass Science & Management 3rd Edition	\$156.62	\$133.13
Turfgrass Soil Fertility & Chemical Problems	\$287.50	\$244.38
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Effluent Water for Turfgrass Irrigation (leaflet).....	\$7.24	\$6.15
Evaluating Turfgrass Sprinkler Irrigation Systems (leaflet).....	\$11.50	\$9.78
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Water in Australia: Resources & Management	\$107.86	\$91.68

The AGCSA has an extensive range of books that can ordered through the AGCSA website, and also through the accompanying order form on page 59.

Best sellers for 2004/2005:

Turfgrass Management 7th Edition by A J Turgeon

Compendium of Turfgrass Diseases by Doernoeden Smiley

Seashore Paspalum: The Environmental Turfgrass by R R Duncan

Turfgrass Science Management - 3rd Edition by R Emmons

Colour Atlas of Turfgrass Diseases by T Tani & J Beard

The Sandbelt by Paul Daley

Golf Course Architecture - Design, Construction & Restoration by Michael Hurzdan

'The Sportsturf Protection Manual' – The Complete Guide to all Turf Protection Products by John Neylan – AGCSATech - 2005 Update Included

Please note: All prices include GST and are subject to change without notice.

Postage: \$9.90 for first book and \$1.10 for every book after.

Controlling Turfgrass Pests –

Second Edition (1997)

By Thomas Fermanian, Malcolm Shurtleff, Roscoe Randell, Henry Wilkinson, Philip Nixon

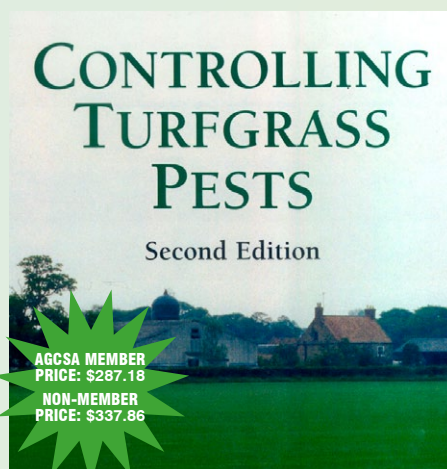
Prentice Hall

As we are told from an early age, never judge a book by its cover. Well nothing could me more true for the second edition of Controlling Turfgrass Pests. Despite a less than flattering cover, this US produced book provides a wealth of information on exactly that, controlling pests in order to produce top notch turf.

This edition has been written as a basic text for turfgrass students and is also designed as a comprehensive reference tool for the professional turfgrass manager and superintendent.

The book contains both the technical and practical information necessary for decision-making and the day-to-day operation in all areas of turfgrass culture and management.

The authors say the stimulus for writing this book came from the rapid expansion of the turfgrass industry over the past 30 years and the increase in the numbers of professional



turfgrass managers responsible for managing turf as free as possible of weeds, insects, diseases and other pests.

They say while there are a number of excellent books available on turfgrass management and culture, a text-reference book that concentrates on the diagnosis, fundamental biology and control of turfgrass weeds insects and other animal pests was required.

Emphasis is placed on how to identify turfgrass pests, where and why they occur, the damage that may take place, the life cycles of pests, plus cultural, chemical and other management strategies designed to keep pest damage to a minimum.

This edition stresses integrated pest management systems for controlling turfgrass pests and emphasis is placed on minimising the severity of all types of pest damage through properly organised cultural management.

The book claims to blend descriptive terminology with the more technical language of weed science, entomology, nematology, plant pathology and turfgrass management to better serve the diverse levels of knowledge and skills of a wide variety of turfgrass managers and consultants.

There is a handy glossary of terms and extensive index at the back of the book, while for turfgrass students the end of each chapter has a series of revision questions as well as a list of selected reference books from which more information can be obtained.

As the book is from our cousins in America, there is scant mention of specific Australian pests, while some of the pests mentioned are not found Down Under. However, this 655-page hard-cover book will find its place in the bookshelf of any dedicated turf manager or superintendent. 🌱

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GCSAQ

Can you believe we are now half way through 2005? It only seems like yesterday we were celebrating Christmas. With the morning and day time temperatures starting to cool, it certainly is a wonderful time of year and you would be hard pressed to find a superintendent in this part of the world that would not feel the same way.

A lot of areas through the state along the coastline have had a bit of rain over the last month or so with parts of the Sunshine Coast receiving up to 225mm. But for some this has not been enough and there are still golf courses out there that are very restricted on what they are watering. Most of the dams around the state are very low and the government and local councils are starting to impose strict water restrictions.

Our April Field Day took us to Lakelands Golf Club for the Northern Rivers Rural Buying Turf (NRRB) and Simplot ProLine Day. The day had a distinct environmental theme, with Sydney superintendent David Warwick (Avondale Golf Club) enjoying some northern hospitality which I'm sure made him wonder why he ever left God's own country. David discussed the benefits of injection and also being part of the Audubon Program.

Ben Marshall (Club Pelican) also talked about Audubon, Scott McKay (North Lakes Golf Club) outlined how his club had to comply and meet with ISO14001 guidelines, while Craig McGrath and Brent Harper talked about Lakelands' involvement with the annual Planet Ark Tree Planting Day.

Other speakers included Stewart

Franklin (Nufarm) who talked about surfactants, Colin Hoey from drumMuster and Jim Lyons (Agricrop) who talked about aquatic weeds. Thank you all for these very informative topics. Thanks also to Lakelands Golf Club, superintendent Darren Moore, and in his absence Craig McGrath for the condition of the golf course.

The talks were followed by lunch and nine holes of golf. Also to John Matheson from Simplot, Peter Fletcher, Tim Kennedy and MC Paul McLean, thanks for keeping the day running smoothly. From the feedback we have had, everyone enjoyed the day and thought it was very informative.

Throughout April and May three Queensland courses (North Lakes, Paradise Palms and Lakelands) hosted the National Chemical Spill Exercise workshops. The Queensland workshops were extremely well attended – some of the best levels overall – and in total there were over 150 at the three venues. A big thank-you to all those who attended and to those clubs which hosted the workshops.

Around the traps, it is great news to hear that Royal Queensland Golf Club superintendent Kelly Hyland is back at work after a six-month break due to illness. It is good to hear that you are feeling a lot better and here's hoping you are back to your old self and fully recovered in the near future.

And finally, sorry to Neil Surman of Water Equipment Technology for calling you Steve in the last issue of ATM.

ROD COOK,
PRESIDENT, GCSAQ.

TGAA ACT



The ACT Turfgrass Association would like to extend its thanks to all members, sponsors and committee members, as without their support the association would struggle to serve the industry.

But there are a few sponsors and individuals out there who deserve a special word. Thank you to superintendent Scott Harris of Gold Creek Country Club for hosting the David Golf and Living Turf day in March. Also, the members who organised the venue for the mid-year seminar at the end of July have worked tirelessly and should be congratulated on a job well done. These include Wade Turner, Norm Dunn and Keith McIntyre.

While on the subject of the mid-year seminar, this is the final reminder not to miss out on something worthwhile. Over the past few years the stature and caliber of our annual seminar has grown to the extent that it is becoming somewhat of a logistical challenge.

This year's topics to be discussed at the seminar will come under the heading of 'A Safer Environment for Recreational Turf'. During this era of legislation, liability and litigation, it is one of the most concerning issues of the day.

The seminar will be held on Wednesday, 27 July. If you wish to attend and you do not have a registration form, contact the TGAA by mailing to TGAA, ACT region, P.O. Box 3223, Weston Creek, ACT 2611, or phone Gary Dawson on (02) 62074624.

Till next time, agrostologists.

JUSTIN A K HASLAM,
COMMITTEE, TGAA ACT AND
SURROUNDING REGION.



TGAA VIC

As we head into winter we enter the busy season for seminars and industry events. The TGAA (VIC)/ASBA seminar day was held in Eltham College in May and very shortly we journey to Moama for the 21st Australian Turfgrass Conference and Trade Exhibition.

Members will have the opportunity to discuss a wide range of important issues facing today's turf manager. I look forward to catching up with as many members as possible.

In addition, our Cricket Wicket Seminar will again be at Telstra Dome on Wednesday,

13 July. Concentrating on wicket preparation and maintenance, this day is a must for all members who have any connection with turf wicket surfaces.

Let's hope these lovely balmy autumn days don't go on for too long; we really do need the rain. As you are aware, our water authorities are implementing uniform water restriction guidelines for all of Victoria, which is a good thing as it will reduce uncertainty within our community.

Work is ongoing within your organisation to proceed toward a better understanding between water authorities and the horticultural

trades and industries. This topic remains my key focus, as the turf industry continues to develop better management strategies for all turf and horticultural environments, which leads to a decreasing environmental footprint from us all.

I trust your winter is kind to you, and look forward to speaking with you soon.

JIM MARCHBANK,
VICE PRESIDENT, TGAA (VIC).

TGAA VIC



NSWGCSA

Being my first report as NSWGCSA president, it is a big challenge taking over from the grammatically agile Craig Easton. Filling the shoes of Craig and other past presidents will no doubt be a challenge.

Before I attend to other matters, I would first like to thank Craig for his four and a half years of passion and work on the Board. Craig played an integral part in the production of the Pesticide Log Book, OH&S CDs and the new turf management diary released this year.

The association's excellent relationship with Sydney Water, the DEC and NSWGA among others is testimony to Craig's diligence and professionalism. The association wishes Craig all the best in his new role as territory manager for Nuturf.

Other departures from the board include Scott Lane, who resigned from Oatlands Golf Club to move to Queensland to take up work on course construction, while Merve Hayward has also stood down after seven years. Merve made considerable contributions organising field days. New members on the board are Craig Molloy (Eastlakes Golf Club) and Justin Sheehan (Beverley Park Golf Club).

WEATHER AND WATER

Late summer/autumn rainfall coupled with above average temperatures has provided excellent turf coverage in most coastal regions. Unfortunately many country areas are still in drought and desperate for rain going into winter. This includes the Sydney water storage catchment area, which is down to 41 per cent with tier three restrictions coming in at 40 per cent. Many clubs are investigating any possible alternative water source.

OUTSOURCING

Outsourcing is a hot topic at the moment with one company in particular bombarding clubs with advertising and glossy brochures. The offer of 'more for less' can be attractive to those without the experience and knowledge required to manage a golf course.

The association has had the opportunity to meet with some club boards considering this option to discuss the issues involved. We have encouraged clubs to thoroughly investigate all aspects of outsourcing, including:

- courses that have previously and currently utilised outsourced course maintenance;
- courses that have considered and declined this option;

- satisfaction of the average customer at facilities using outsourced maintenance;
- consequences of a lower level of presentation and quality from reduced maintenance expenditure;
- priorities and options for reducing course expenditure with in-house maintenance;
- closely examine contracts for exclusions or expenditure not covered;
- who within the club will be qualified and responsible to ensure contract compliance is maintained; and
- benefits of having direct control over the club's main asset.

As course superintendents we must look in our own backyards and be objective of our own performance. Communicating with the club board and providing options for course expenditure reductions is necessary.

Education and keeping abreast of all aspects of course management issues is vital. Support and use the association and other forms of education and training, and use the fraternity of your association for input or help.

Consider having your peers critique your course and provide suggestions for improvements in standards or efficiency. Sharing ideas and documentation can make all our jobs easier, and such communication and sharing can only help us all and the industry in general.

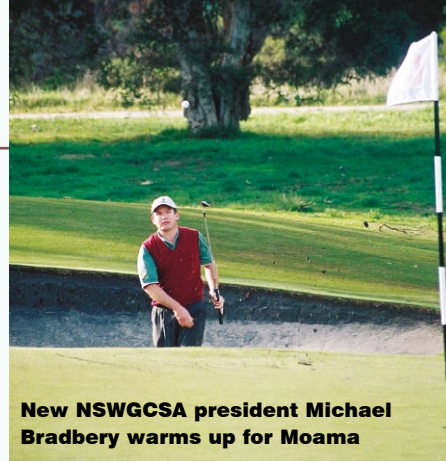
FIELD DAYS

The Rube Walkerdon annual championships was held at Penrith Golf Club in March with Andrew Comerford from Heritage winning the Rube Walkerdon Trophy with 48 points, while Martyn Black and Andy Hugill dead-heated (74) for the President's Trophy. Greg Ford won the Peter Ingram Trophy with 37 points and Tony Fogarty and Bruce Kemp shared the Patons Cup (49 points).

Thanks to board member and superintendent Scott Riley and Penrith Golf Club for the organisation of the day and sponsors Patons fertilisers, Maxwell & Kemp, Bayer Environmental Science and Darby Muller from Golf Shapes.

Unfortunately the Country Tour to Kiama and Wollongong was cancelled due to lack of numbers. Apologies to our South Coast members who strongly support this event. The board is considering an alternative format next year to attract members.

The next field day will be the annual ambrose event held at Cypress Lakes Resort



New NSWGCSA president Michael Bradbery warms up for Moama

in the Hunter Valley on 18 July. This event always gets a maximum field so get in early as numbers are limited to 120 this year.

The NSWGCSA AGM will be held at Bexley Golf Club with a guest speaker and golf or a course tour optional after lunch.

Pennant Hills will be the venue for our Education Day on October 24 with outsourcing and management systems being addressed. This will be followed by Richard Kirkby's presentation of his US tour and a course inspection. The annual Harbour Cruise is set for 7 December.

ENVIRONMENTAL ASSESSMENTS

The DEC has carried out follow up inspections of courses cooperating in the snapshot environmental assessments with most clubs making good progress on those areas identified in the initial audit. The DEC has now contacted all NSW golf clubs informing them that local council inspectors will be in touch to check their facilities.

Andy Hugill reports all courses in the Pittwater LGA have already been inspected by environmental officers. Several clubs have had environmental audits carried out by Terry Muir.

Guy Thomas at Newcastle Golf Club has also purchased Terry's environmental management system E-par and has commenced its implementation.

Golf clubs in the metropolitan areas of Sydney and Newcastle were also asked to assist in an emissions survey carried out by Simon Metcalf, environmental scientist with Optimised Operations Pty Ltd. Optimised Operations are developing estimates of fuel emissions across all industries.

EDUCATION

Richard Kirkby is busy organising the Apprentice/Trainee of the Year awards at Pennant Hills Golf Club. Finalist are taken on a tour of Avondale and Pennant Hills golf clubs on the day. The winner receives an all expenses paid trip to the AGCSA Conference.

**MICHAEL BRADBERRY,
PRESIDENT, NSWGCSA**



TGAA WA



Peter Ruscoe presents Matthew McLeod his award

On behalf of all members of the TGAA (WA), I'd like to congratulate Richard Winter on his move to the MCG. Richard was the inaugural president of our association and has provided great support by hosting the annual turf wicket seminar at the WACA. We wish him well.

Our first educational event for the year was the Irrigation Seminar at Burswood on 24 March which attracted almost 70.

The seminar topics included 'Preparing a water budget' by Neil Marriott (Challenger TAFE), 'Irrigation benchmarking for local government' by Ken Johnston (Sports Turf Technology), 'Water conservation plans' by Chris Ryan (Dept of Environment), 'Using recycled water on turf' by John Forrest (Challenger TAFE), and a 'Case study on UWA Sports Park', by Chris Marsh (UWA). Sam Franco also led a turf walk around the Burswood parklands.

The TAFE awards dinner was held on 27 April and hosted by the TGAA (WA). The event is sponsored and organised by the industry to recognise the achievements of graduating turf apprentices and students. Congratulations go to the award winners:

Best apprentice: Matt McLeod (Dunsborough Lakes Golf Course)

Best night student: Maxwell Dennis (Town of Vincent)

Best bowling green apprentice: Daniel McIver (Innaloo Bowling Club)

Lecturers award: Blake Humble (Sun City Golf Course)

The University of WA turf research open day was held on 19 May at the Shenton Park site. It was a great opportunity to inspect the trial plots and learn about the aims and outcomes of the new kikuyu research project.

PETER RUSCOE,
PRESIDENT, TGAA (WA)



NZGCSA

It gives me great pleasure to present the presidents report of the NZGCSA for 2005.

While this last year was a steady as she goes year, we have been able to complete the moderation contract due to the outstanding work of the moderators who give their time to ensure the quality of training in our industry remains at a high standard.

We also need to recognise the golf clubs our moderators work for who allow the moderators to complete this work for us during work hours. Outside subscriptions this is our main source of income so to all involved thank you for your contribution and your enthusiasm for our industry.

Speaking of subscriptions, the executive has set the subs for a Class A member at \$110. Some may not realise that this is the first increase in subs for some time and became necessary due to financial losses incurred in previous years by the association, as well as projected deficits if this action was not taken.

It takes into account where the level of subscriptions for a Class A member would be if we had increased them by a small amount each year. It is also comparable with similar employee based organisations.

We have left the other categories untouched as we see this as our potential growth areas in membership; we will be targeting these areas to increase membership as well.

I have had numerous inquiries as to why the regions weren't consulted with this increase. Constitutionally we don't need to as membership of the NZGCSA is now individual not by region; the regions set their own subs and act as a collection agency for us which we are very appreciative of. This was changed in the constitution some time ago.

Other initiatives to increase our revenue streams are to establish an NZGCSA clothing catalogue that can be accessed either through our website or a hard copy format. Our website continues to improve. This is basically self-funding and has been well utilised. I believe there are more avenues to be explored to use the website to increase income.

We have had discussions with NZ Golf chief executive Larry Graham as to ways we can foster a better relationship between the NZGCSA and NZ Golf.

I am glad to report that everything thus far has been positive. Larry has indicated that the NZGA will provide assistance with our awards. We have also been offered the use of

the boardroom at their new premises for our meetings, which gives us the opportunity to meet face to face with NZ Golf more frequently. All this has to be positive for both parties.

Larry will be joining us for the AGM and will brief us on the future path for golf in New Zealand and hopefully answer some of your questions.

To the recipients of our major awards – The Fellowship Award, Trainee of the Year and Distinguished Service Award – may I offer my congratulations. I would also like to acknowledge the award sponsors and thank them for their contribution.

Our administration people Peter and Carol Macintosh continue to give us sterling service. They work long and hard on our behalf behind the scenes and I for one owe them a great deal of gratitude. I'm unsure whether I would be able to hold the position of president or similarly the other members of your executive could hold office if we didn't have people the caliber of Peter and Carol to look after the day to day running of the NZGCSA.

I would also like to take the opportunity to thank the executive members of the NZGCSA for the time they give. These include Peter Boyd (Pakuranga Country Club), Layne Young (North Shore Golf Club), Kevin Sharrock (Sherwood Park Golf Club), John Spraggs (Royal Wellington Golf Club) and Ian Carruthers (Corringa Country Club).

I would like to acknowledge the two retiring members – Ian Carruthers and Kevin Sharrock – for their contribution to the NZGCSA. Kevin unfortunately has been forced to leave the industry and I'm sure you will join with me in wishing him well for the future. Ian, at the time of writing this report, had not indicated whether he was standing for re-election again or not but it would be fair to say Ian's contribution has been immense and often the steadying influence at meeting time.

The organising of the conference has caused some concern and for this reason we are seeking feedback from our membership as to the direction you wish us to take for future conferences. Two options have been tabled for discussion at the AGM.

It has been a pleasure to serve as your president over the last 12 months and I look forward to the next 12 months with much excitement.

BRETT BURGESS,
PRESIDENT, NZGCSA





VGCSA

As I sit here and contemplate the privilege of writing my first presidents report for the VGCSA, I reflect on the achievements of the three presidents I have seen come and go since returning to Victoria as superintendent of Commonwealth Golf Club. I have a very hard act to follow the Three Wise Men in Richard Forsyth, John Geary and my mentor, the great and best handballer in the business, Michael Picken.

Since being a part of the VGCSA two other great stalwarts have moved on in Michael Riordan (Patterson River Country Club) and Brett Balloch (Anglesea Golf Club). Two younger members Chris Grumelart (Sandhurst) and Mark Lambourn were also great contributors and we thank them.

All these former committee members have continued to make this association professional and have set up and completed many projects including trade sponsorship, education standards, turf trials and the history book just to name a few.

Now that all the old members have moved on that leaves us with a young and enthusiastic committee, which has the task in front of them to continue to achieve the standards that have already been set.

It was commented on at our last meeting that members were to wear name badges. Michael Freeman has been busy with Lesley Mitchell and introduced new name badges which will assist all of us in getting to know and associate with all superintendents at all meetings.

These will be issued shortly and are a new style so it would be appreciated if we could all wear them. Committee will wear slightly different badges to be easily identified so we can be approached if needed.

AWARD WINNERS

The VGCSA would like to congratulate the following award winners;

VGA/VGCSA Golf Turf Apprentice: Tim Perrett (Royal Melbourne Golf Club)

Congratulations to other nominees Tony Cooksey (Wodonga TAFE, Mansfield Golf Club), Paul Bartlett (Holmesglen TAFE, Kingswood Golf Club) and Paul Bardsley (Chisholm TAFE, Patterson River Country Club).

VGA Scholarship Award: Andrew Heslin (Jubilee Golf Club).

NMIT Turf Apprentice: Robert Martin (Churchill Park Golf Club).

VGCSA AGM

At our recent AGM at Peninsula Country Golf Club we presented life memberships to two loyal and very supportive members - Colin Cowden (Rossdale Golf Club) for 36 years' service, and Colin Winterton (Medway Golf Club), a former VGCSA secretary, for 25 years' service.

All trade members will shortly be contacted regarding sponsorship packages for 2006. This is your chance to be involved in our great association so please be prompt with your reply and look closely at the different packages offered.

An aim of the VGCSA is to increase our numbers at all meetings by all superintendents throughout Victoria. As we are now looking at dates and golf courses for 2006, if you want your course involved or have any recommendations for meeting formats, preferred days and times etc please let us know as it is your association.

MARK PROSSER,
PRESIDENT, VGCSA



VGCSA life member Colin Cowden.



SAGCSA

With an Indian summer which seemed to go on for ever, fire bans in May, the lack of any meaningful rainfall in autumn, and soil moisture levels at their lowest for the last three years, it hasn't been your average autumn in this part of the world.

Could this be put down to a local superintendent who recently purchased a Super Sopper to dry out wet fairways in winter? Stay tuned.

The SAGCSA's March meeting was held at Thaxted Park Golf Club, with superintendent Andy Blacker hosting 35 members. Company's represented on the day included Toro, Globe, T-link, Hicks Instant Turf.

It had been over 10 years since our last supers meeting at Thaxted Park and Andy had many improvements to show the gathering, none more so than the recent vandal damage of two greens adjacent to the clubhouse.

It seems that some eager 4WD enthusiasts

thought it might be interesting to see what sort of traction their vehicle would need to get across the two greens.

It seems the idiots didn't find out that much as the damage on one of the greens was so bad that the club's insurance company saw fit to pay for a rebuild of the green. The other green escaped that fate, and Andy and his staff were able to patch it up. All in a days work!

CHEMICAL SPILL WORKSHOPS

Sixty-five people attended the AGCSA chemical spill demonstrations held at the Murray Bridge and Blackwood golf clubs in April. Apart from the fantastic attendance for both days, the content was well delivered, with a wealth of information on various types of spills and the resources needed to contain all of them.

SA PGA

The recent SA PGA held at the Grange Golf

Club was, by all reports, a great success. Superintendent Chris Klei needs to be congratulated for turning out the course in top condition, particularly with renovations to the course and the large traffic flows over the Grange greens. It is a tribute to persistence that Chris and his staff could manage both challenges over a rather dry autumn period.

SAGCSA AGM

The SAGCSA also held its annual general meeting at Kooyonga Golf Club (superintendent Stephen Newell) on 26 May. I will report more on that in the next edition.

I hope to see as many SAGCSA members in Echuca-Moama for the 21st Australian Turfgrass Conference from 6-10 June, and let's hope the rain starts tumbling down soon otherwise the Super Sopper might have to be put in moth balls until next year.

PETER HARFIELD,
PRESIDENT, SAGCSA



GCSAWA

On 27 April the TGAA WA hosted the 2004 turf industry awards night. Many thanks must go to the TGAA for hosting this event, Steve Dargie for assisting with the logistics of inviting students and presenting awards, but equally as important those trade sponsors who once again supported the occasion.

It was heartening to see two golfies – Blake Humble (Lecturers Award) and Matthew McLeod (Best Apprentice) – walk away with two of the major awards for the night.

Unfortunately the GCSAWA could not present the Best Indentured Apprentice Award at this event due to one of our finalists being out of the country. The two final candidates for this year are David Higgins (Meadow Springs Country Club) and Chris McKenna (North Beach Bowling Club).

Both students have been recognised previously for their excellent achievements and efforts, with David being awarded the Bayer Crop Science Shield for Best Apprentice 2004 and Chris winning the Murray James Memorial Trophy for Best Bowling Greenkeeper in the same year.

The GCSAWA Management Challenge was hosted by Secret Harbour who won the event for the second consecutive year. A sincere thanks to Allan Devlin and his staff who had the course in magnificent condition.

Accordingly, a huge thanks must go to those few golf clubs who once again supported this event, and recognised the importance of

social interaction within their workplaces. With a lacklustre turnout, the executive committee will have to seriously look at the format and potential sustainability of continually holding this competition in the future. It would be a shame to see it disappear and it would be a penalty for those clubs who support it.

The GCSAWA in conjunction with the General Managers Association WA has formally supported John Forrest's research entitled 'Monitoring the Irrigation on Sandy Soils with Treated Effluent Water in WA which is now drawing to a close with exciting and positive findings.

I would like to finish off my report by seeking feedback from members nationwide regarding the views on the wage conditions outlined in our Golf Link and Bowls Award and various other awards. www.docep.wa.gov.au. Anyone who has tried to recruit staff of late, qualified or unqualified, will know it has become difficult to attract quality people to the industry based upon poor wages offered.

It is quiet obvious that local government are leading the way by offering good rates of pay and conditions for general turf managers, mower operators and grounds people.

You may say that 'You don't have to pay the basic award rate to your staff' and a lot of club's thankfully don't. However, that piece of paper always seems to land in the lap of club bean counters who make it extremely difficult if not impossible to present reasonable packages.

Superintendents have strived to raise their profile and professionalism to a high standard where they can quite rightly command fair wages/salaries and conditions and I believe we should now be looking further down the line to our equally valuable subordinates.

I am currently reviewing;

- Each state's Golf Greenkeepers Awards throughout Australia to identify strengths and weaknesses;
- Benchmarking our Award with other Industry Awards to ascertain strengths and weaknesses;
- Talking to industry figureheads about Australian Workplace Agreements/ Enterprise Bargaining Agreements.
- Seeking feedback from AGCWA and other state associations; and
- Writing a brief report about my findings and recommendations.

All of which I hope will improve the basic wage conditions for our valuable golf employees. I think that with today's intense public and political focus on environmental management, the next step to guarantee the safe and harmonious future of the greenkeeping industry is to not only ensure superintendents are of the highest quality but also the graduates we are attracting to and sending out into the industry.

BRAD SOFIELD,
PRESIDENT, GCSAWA.

GCSAWA

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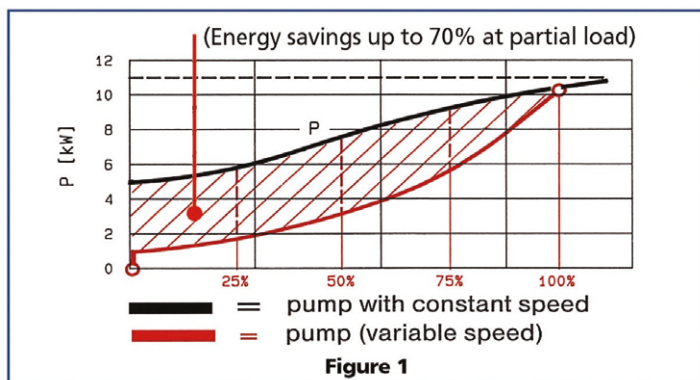


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Martin Greenwood,
Golf Course Superintendent
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