

BY KEITH MCAULIFFE, MATT ROCHE AND DR DON LOCH

Around 25 turf managers from Australia and New Zealand attended the first multi-use stadia workshop conducted in October last year at Suncorp Stadium and Redlands Research Station



Multi-use stadia workshop and Cynodon wear tolerance trials

We pride ourselves on our nation's sporting prowess and, in general, we place high expectations on our professional athletes and major sporting stadia.

Historically, there was greater acceptance of the playing surface condition. Good or bad, it was considered the same for both sides. However, in this new era of professional sport, the playing surface, like all other aspects of the game, is required to meet a standard. A below par surface will not only impact on the quality of the match, but also the likelihood of player injury.

In order for an athlete or team to successfully perform it is essential that the playing surface be safe, consistent and appropriately managed.

Major stadia and particularly multi-use stadia are continuously under pressure to increase performance and to be at the top of their game to accommodate a wide array of venue hirers such as attracting various sporting events or concerts.

Such a demand places the managers of major outdoor sports arenas with one of the toughest jobs in sport. Imagine having to cope with the realisation that a wrong decision could jeopardise a major event, such as a State of Origin decider or Bledisloe Cup. The reality is that the pressure on top tier turf managers are ever-mounting as more is asked of the playing surface by venue owners.

In October 2007, the Queensland Department of Primary Industries and Fisheries Turf Research Group, in collaboration with the New Zealand Sports Turf Institute, hosted an invitation-only workshop at Redlands Research Station and Suncorp Stadium, designed to assist leading multi-use stadia turf managers in coping with today's pressures in managing field performance. The seminar was attended by turf managers from 25 leading Australian and New Zealand sports venues, along with scientists and advisors from Australia, New Zealand and the United Kingdom.

In October, the Queensland Department of Primary Industries and Fisheries Turf Research Group, in conjunction with its New Zealand collaborators, the Sports Turf Institute (STI), hosted an invitation-only workshop at Redlands Research Station and Suncorp Stadium, designed to assist leading multi-use stadia turf managers in coping with ground usage pressure. The seminar was attended by turf managers from 25 leading Australian and New Zealand venues, along with scientists and advisors from Australia, New Zealand and the UK.

Suncorp Stadium general manager Paul

Sargent kicked the seminar off by clearly defining the challenge facing curators. He recounted his experiences, including Wembley and Millennium stadiums, stating that stadium management was a business and venues needed to maximise revenue in order to survive. He expected his turf management team to come up with workable solutions to any sports surface usage demand.

One of the greatest challenges with playing surfaces in today's major stadia is shade. The audience at the seminar heard from HOK Sport's Shaun Gallagher about new stadium developments, such as Wimbledon

Redlands trial plots showing differential effects of equivalent amounts of weekly wear on three *Cynodon* varieties ranked with high, medium and low tolerance to wear (left to right)



and Melbourne's Telstra Dome, which have major challenges in acquiring adequate light for optimal grass growth.

Participants also heard from Dr. Andy Newall of the Sports Turf Research Institute, UK, about his work to model lighting requirements of stadia playing surfaces. Andy has worked with many of the world's leading stadia and has developed software and systems to demonstrate light levels on a surface throughout the year and how much supplementary light would be needed to ensure adequate turf growth.

The audience heard how this leading edge technology has been combined with the design and construction of artificial lighting rigs, and that a large number of football grounds in Europe have moved to purchase such rigs.

Telstra Dome is set to become the first

Australian venue to use them on a large scale and will take delivery of its lighting rigs in January ahead of the 2008 AFL season (see **ATM Volume 9.6 for Gavin Darby's exclusive in-depth article on the Dome's new artificial lighting system - Ed**).

In addition to shade issues, the seminar offered sessions on key design and management issues, including logo marking, use of rootzone stabiliser products and surface performance benchmarking. The audience also heard from leading curators, such as Graeme Logan (Telstra Stadium) and Mark Perham (Eden Park, NZ) about how they have dealt with the challenges faced managing an intensive and multi-use playing surface.

A significant part of the first day was allocated to presenting recent and current research being conducted by the QDPI&F Turf Research Group and STI. Presentations were made by Dr. Don Loch, Matt Roche, David Nickson, Keith McAuliffe and Alex Glasgow, followed by a tour of the Redlands Research Station and the various projects being undertaken on the research plots.

Field visits were also made to the Gabba to see Kevin Mitchell Jr. add the finishing touches to the one-day wicket for the Queensland Bulls-Tasmanian Tigers match. The afternoon was then spent at Suncorp Stadium being shown around the venue by Paul Sargent and head curator Mal Caddies.

Typical damage imposed to the test facility at the completion of wear testing



During the Suncorp Stadium visit Matt Roche from the QDPI&F demonstrated the methodology used to measure and benchmark surface quality and performance at elite grounds such as Suncorp and the Queensland Sports and Athletics Centre (QSAC).

This was later followed up by an open forum on the need for surface performance testing and benchmarking and how such information could be used as a management tool.

There was general agreement that there is a need for standardisation of the methodology being used in order to allow 'apples for apples' comparison, and both the DPI&F and STI are working to address such concerns.

WEAR TOLERANCE VISUAL ASSESSMENT EXERCISE

Of particular interest to participants was the couch cultivar wear trial being undertaken by the QDPI&F, which has clearly highlighted significant differences in the wear tolerance and recovery of different couch types.

Workshop attendees were asked to rank the eight *Cynodon* varieties in a replicated wear trial according to their visual tolerance to wear after 14 weeks of wear beginning on 5 July 2007. The eight varieties tested included Conquest, Grand Prix, Hatfield, JT1, Legend, Princess, TifSport and Wintergreen.

The full experiment involved five different wear treatment combinations imposed on strips running across plots of the different varieties, which had been planted in a randomised block design.

The five wear treatment combinations were pure *Cynodon* with weekly, fortnightly, or no wear, and ryegrass-oversown *Cynodon* with fortnightly or no wear (two treatments). Over each two-week period (three treatments), the same total amount of wear was applied to both the weekly and the fortnightly wear treatments using a Brinkman-type machine with two rollers rotating at different speeds to cause scuffing of the turf surface. (Further information on the trial setup and earlier wear studies can be found in Loch & Roche 2007).

Visiting curators were asked to rank the eight varieties within each of the four

randomised blocks according to their tolerance for wear within each block, with the best variety in each block scoring eight and the worst scoring one. Tied rankings were allowed, with two varieties coming equal third, for example, both scoring six and the next variety (fifth) scoring four.

For the sake of simplicity, this practical exercise was restricted to the weekly wear on pure *Cynodon* treatment, which was showing the most dramatic and obvious effects of wear. For comparative purposes, rankings of the same plots were also made by three Redlands scientists.

The ranking scores from the curators group (20 samples) and the Redlands group (three samples) were analysed separately by standard analysis of variance (ANOVA) techniques using Genstat v.9.

This particular exercise conducted during the stadia workshop visit provided both researchers and the attending turf managers with a snapshot of the turfgrass quality/wear tolerance and resistance on the day that ratings were undertaken.

Overall, both groups placed the eight *Cynodon* varieties in the same order of tolerance to wear as shown in Table 1. The effect of wear on examples of grasses showing high, medium and low wear tolerance is illustrated in the photo on page 41.

Additional information on wear tolerance studies of *Cynodon* and other warm-season turfgrass cultivars, along with information on current trials being undertaken by the QDPI&F Turf Research Group can be found at www.dpi.qld.gov.au/turf.

While the two-day workshop only scratched the surface of several critical issues facing participants, it was very apparent that participants were well aware of the need to embrace new technology to cope with the challenges being laid down by major venue owners.

Participant feedback strongly supported the need for more seminars of this nature and discussions have already been held on the likelihood of undertaking a second workshop in the winter of 2008. If you would like further information or wish to register your interest, contact Matt Roche via email Matt.Roche@dpi.qld.gov.au.

TABLE 1. MEAN RANKING SCORES FOR WEAR TOLERANCE OF CYNODON VARIETIES AS RATED BY CURATORS AND REDLANDS SCIENTISTS

Cynodon Variety	Curators ¹	Redlands ¹
A	5.6c	6.3bc
B	7.2a	7.3a
C	6.3b	6.8ab
D	1.7g	1.4e
E	4.0ef	4.1d
F	2.1g	2.0e
G	5.2cd	4.8d
H	4.2e	4.0d
(LSD=0.05)	0.5	1.0

¹ Ranking scores followed by the same superscript letter are not significantly different.