Congress 43

Badplaas, Mpumalanga

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Badplaas has a very scenic setting in the Highveld of Mpumalanga, overlooking a game reserve with a wide variety of animals such as white rhino, zebra and kudu. The natural hot water spring that flows into two large swimming pools, has long been known for its natural curing properties. This presented a very soothing and relaxing atmosphere after the many interesting sessions and added vigour to the start of day.

This congress specifically aimed at highlighting the important links between planted pastures and natural rangeland as there has been a concern that the planted pasture section of the GSSA has not received the attention it deserves.

The meeting was opened by Dr Hector Magome, the managing executive: conservation services of SANParks. The presence of the executive of SANParks at the congress emphasised the importance of science in conservation, as well as the need to share conservation issues with rangeland and pasture scientists. Dr. Magome emphasised the importance of allowing scientists to think freely about approaches to solving emerging problems when the system is under threat, rather than restricting the possible approaches.

The keynote address by Dr Richard Stirzacker from CSIRO in Australia discussed "What can agriculture learn from the study of natural ecosystems?" He emphasised the role that planted pastures played in food provision and population growth and how improved technology made this possible to produce sufficient food in the limited area available for crop production between the extremes of hot and cold zones, and extremely wet and dry zones.

However, there are now huge challenges to food production in the form of increased production costs and environmental changes and degradation. The richer insights rendered from knowledge of the functioning of ecological systems may

help to overcome some of these problems. An important point to consider is that even though optimal efficiency which was always strived for is still a worthy goal, it should not be the ultimate goal any more. The emphasis should now change towards encouraging diversity to enhance resilience or be prepared to pay the cost of not having a resilient system which might still be small at this stage, but will become huge as resilience of the system decreases in the face of increasing disastrous events.

The following plenary session aimed at linking planted pastures to natural rangelands with the emphasis on the knowledge gained over the past 25 years. The first talk by Amie Aucamp emphasized the role of planted pastures in livestock production and the risks of degradation due to overstocking. Norman Rethman followed on by discussing how planted pastures can be integrated into livestock production systems taking the conservation of natural resources into account, making sure that resources are used sustainably.

A special session also addressed the question of "How our knowledge has grown since the Biome projects and the 'Responses of Savannas to Stress and Disturbance: a proposal for a collaborative programme of research'. The objective of this exercise was: 'To develop a predictive understanding of the ways in which savannas respond to natural and man-made stresses and disturbances'. The session concluded that while previously investigated issues were largely still relevant additional factors such as the effects of climate change had emerged as major drivers. Methods of measurement were discussed and the importance of new technologies such as remote sensing as an adjunct to field monitoring was highlighted. The session hopefully contributed to the matrix of what is useful to measure and what new ideas need to be added in order to better understand and predict ecosystem function and trends.

The lack of capacity in grassland sciences is a huge concern that was discussed at both these sessions and a workshop held on teaching rangeland and pasture science will hopefully address some of these issues. A further workshop on Farmer Development: New Approaches to Rangeland and Pasture Management further addressed the lack of capacity at ground level.

These sessions set the scene for the rest of the congress. The savanna and rangeland theme was addressed by eighteen papers on the understanding of Savanna Ecology. These included papers on nutrient and energy flow, degradation and ecosystem resilience. The five papers in the Adaptive Management session focussed on discussing progress with the implementation of adaptive management in practise. A special session with four papers on Integrating Land and Water Systems as a Resource Management Imperative discussed how to link the river and terrestrial systems in the production landscape. A session on Rangeland Fodder Production and Quality addressed questions on how utilization affects forage quality and

production and how forage quality in turn effects herbivory. How to monitor all these interactions has long been a contentious issue and was addressed by six papers in the session on Rangeland Assessment and Monitoring.

The recovery of degraded areas is another issue that has received a lot of attention in management and research. Approaches to rehabilitation of degraded areas as well as the control of invasive aliens and bush encroached areas was discussed in 23 papers.

One of the most difficult aspects in range and intensive livestock production systems is to ensure fodder flow. Approaches to this problem was addressed in 28 papers presented in various sessions and was aimed specifically to help the farming community. These papers covered topics such s the role of nitrogen fertilizer in the production of planted pastures, to different approaches in determining production.

Biodiversity has become a very important goal in most conservation areas, but has also gained importance in rangeland systems. A session with 9 papers discussed biodiversity initiatives in a wide range of fields from crane conservation to conservation of grasslands.

A field new field in grassland science is remote sensing. This special session with six papers discussed how this tool could be used for monitoring the effect of factors such as fire, nutrient and soil distribution and rainfall on rangeland production.

Every day was concluded by a social get together around the warm fires, which were often concluded by a warm dip in the pools nearby. The social vibe of the society is still strong and many important insights and co-operations were gained in this less formal arena.

At the final dinner, several awards were handed out for excellence in science. Alan Manson, Debbie Jewitt and Alan Short received the award for best paper in the African Journal of Range and Forage Science for *Effects of season and frequency of burning on soils and landscape functioning in a moist montane grassland.* Vol. 24(1): 9-18.

Best Poster was won by Bethwell Moyo of University of Fort Hare for Moyo B, Dube S Lesoli MS and Masika PJ: *Temporal and spatial variation in activity patterns of cattle grazing in the communal areas of the Eastern Cape, South Africa*.

The best presentation by a

young scientist was handed to Meghan Ellis, University of KwaZulu-Natal for Ellis M, Kirkman KP and Morris CD: *Seedling growth and competition in five South African grasses: the nitrogen effect.*

Finally, best presentation was handed to Jabulani Mashiya, Tshwane of University of Technology for *Additional skills and training for pasture scientists needs attention for the future survival of rangelands in South Africa.*

Each congress award is judged by a panel of four judges per session, according to a strict set of criteria, and the winners can be proud of being the top-scorers in their categories.

The most coveted award of the week, the Faux Pas award, was more tightly contested than most years, but eventually the five other candidates had to concede defeat to Alan Short who (*Editor's note: censored to maintain the good name of the Society*).

I am sure every delegate is already looking forward to the meeting next year in Gauteng and those who missed out this year should seriously consider joining in the fun in 2009.

The Peter Edwards Award for Conservation Farmer of the Year: Mpumalanga, 2008

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The annual GSSA congress incorporates the Peter Edwards Award which is presented in recognition of the sound application and practice of the principles of range and forage science and conservation. The aim of the Award is to recognise top land-users in different areas of southern Africa and thereby encourage the wise use of natural resources. There were three final nominees accepted for this years award, the Associated Private Nature Reserves (APNR) adjacent to the Kruger National Park, Kopje Alleen (in the Badplaas area) and Karan's Camp (in the Timbavati Private Nature Reserve). The award recognizes land users who strive to attain the vision of the Society which is to advance rangeland ecology and pasture management in Africa.

Associated Private Nature Reserves

The APNR is some 171 637 ha in extent and forms part of the greater 2.3 million hectare Kruger National Park protected area. It is comprised of the Timbavati, Umbabat, Timbavati and Balule Private Nature Reserves. The APNR was originally

formed with the main objective of conserving a tract of pristine country and its natural biodiversity, the area having been set aside for the enjoyment and benefit of its owners. With time, the objective has evolved to include the development of a high quality wildlife tourism product that generates better revenue than the limited agricultural options offered by this harsh environment. It has also become apparent that such land use generates more business and employment opportunities for local communities than that possible through livestock farming. This is vital in today's prevailing socio-economic conditions. The APNR aims to provide for ecologically and aesthetically sustainable (non-consumptive and consumptive) use of the area for its owners, based on wildlife focussed recreation, tourism and hunting, encouraging the participation of local communities and without compromising the ecological and aesthetic objectives, the economic viability and investment value of the properties.

All of the reserves making up the APNR have been a part of the Agricultural Research Council's comprehensive ecological programme since its inception in 1989/90. This includes extensive veld monitoring and animal count data. Further, in terms of new legislation, the ARC has together with the APNR submitted the first management plan for a Private Nature Reserve.

Kopje Alleen

Kopje Alleen is run by Brenda and Avena Jacklin and focuses mainly on organic crop production, compost production out of water-guzzling and alien invasive wattle trees which are removed from the environment and chipped. The compost produced from the trees is an effective substrate for their vegetable production business, and they also sell surplus compost locally. They are hoping to expand their compost-production programme. Production of compost from alien trees is a novel, effective and economical way of clearing aliens without leaving piles of woody debris behind. They have a strong outreach programme with talks on waste minimisation, climate change, indigenous birds and plants. The Jacklins make donations of indigenous plants to local schools and are

Thinned bush at Klaserie, APNR

Heaps of compost made from chipped alien plants at Kopje Alleen
Overleaf: River bank at sunset, Karan's Camp

involved in organising of a local annual Mpumalanga indigenous plant sale, with talks on various topics by local experts.

The organic farming method incorporates raised beds, no chemical fertilisers and sprays, water conservation strategies such as mulching and the manual management of watering activities. Organic food production is thus achieved with little wastage. All food is processed and packaged on the farm for local distribution.

Veld management practices include fire prevention measures such as the slashing of fire breaks, removing felled trees, conserving indigenous fauna and flora and setting up a catalogue of indigenous flowering plants. The Jacklins also run an indigenous plant nursery and propagate and sell indigenous trees, shrubs and bulbs.

The Jacklins provide an exemplary example of organic, environmentally friendly and sustainable farming methods.

Karan's Camp

The third finalist was Karan's Camp in the Timbavati Private Nature Reserve. This area covers some 2 000ha in an area famous for its white lions and forming part of the greater 2.3 million hectare Kruger National Park protected area.

The perennial problem of bush encroachment in savannas has been addressed by the landowner Mr. Karan with the ARC as ecological advisors and Game Ranch Management Services as contractors doing the bush control. The area was previously cleared in an *ad hoc* fashion resulting in thick stands of coppicing *Colophospermum mopane* veld. This was not aesthetically pleasing and negatively impacted on game viewing. The overall management objective is to conserve a wide diversity of large herbivores as a base for outdoor recreation and to optimise revenue through the wise use of natural resources in the area.

A monitoring study was initiated to assess the ecological impact of a bush removal programme at the lo-

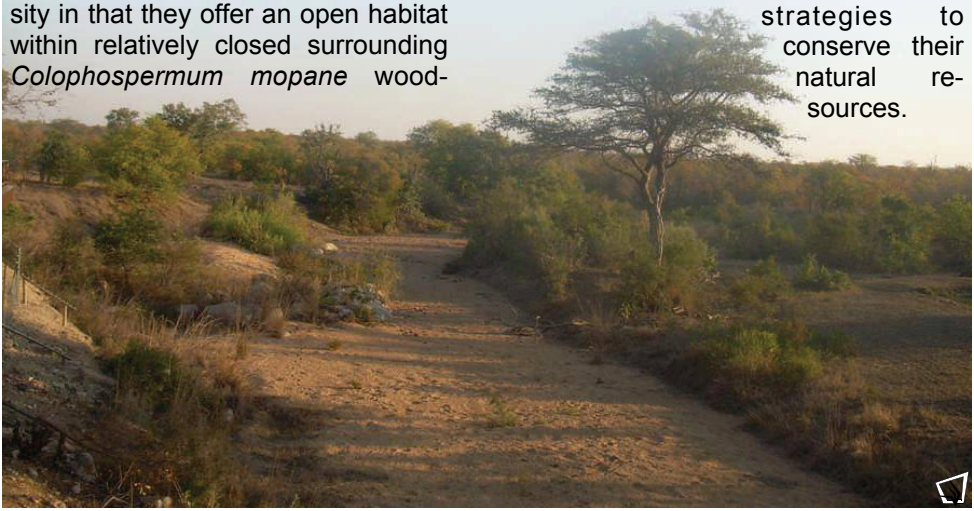
cal scale, and its long-term sustainability. Vegetation change was determined in terms of trends in (1) woody species composition, (2) herbaceous species composition and cover, (3) woody plant density, and (4) grass production. Studies were set up within three pairs of adjacent sites. Within each pair of sites, one was cleared and the other was not. The sites were permanently marked on the ground using concrete blocks, and accurate instructions for their relocation were made. Vegetation monitoring has been carried out annually since 1995.

Over the 12 years of this study, areas that have undergone bush control have consistently maintained a relatively higher percentage of perennial grasses, a favourable grass cover (basal cover index and tuft diameter) and higher grass production levels than areas that were not thinned. The thinned areas also had an improved visibility and game viewing potential, important in terms of the management goals of this property, and contributed to biodiversity in that they offer an open habitat within relatively closed surrounding *Colophospermum mopane* woodland. Further, due to the co-ordinated effort of all involved the return time for re-treatment is a highly satisfactory 7 years. The owner is commended for his efforts in maintaining the monitoring and re-treatment programmes. The result is a model example of an ecologically and economically viable bush control programme.

And the winner is...

The APNR was finally selected as the winner fighting off tough competition from the other two finalists. Congratulations on a well run private protected area.

Next year's Peter Edwards Award will be chosen from land-users in Gauteng, and members are encouraged to send in their nominations for the award as soon as possible. Nomination forms can be obtained on the GSSA website or by contacting the Administrator. The Peter Edwards Award is crucial for recognising the efforts of land managers who, year after year, patiently apply the best management strategies to conserve their natural resources.



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Forage Cereals Package:
Planting date and expected grazing period.

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
DRAKENSBERG	x	xx								
LE TUCANA	x	xx								
PAN 248	x	xx								
PAN 233 & PAN 263	x	xx								
SOROM	x	xx								
PAN 299	x	xx								

Forage Cereals
Dryland and/or supplementary irrigation

Oats

- DRAKENSBERG
- LE TUCANA

Triticale

- PAN 248
- PAN 299

Stooling Rye

- PAN 233
- PAN 263
- SOROM

Management Hint: For a balanced fodder flow and longer utilisation, plant more than one cultivar between February and April.

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Annual Ryegrass

- VOYAGER 55 and VOYAGER 31
- DARGLE
- MISPAH
- ENERGYL

Perennial Ryegrass

- QUARTET
- DOBSON

Tall Fescue

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Management Hint: Plant when maximum day temperature begins to drop below 25°C. Plant shallow and roll to ensure good contact with soil and moisture.

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