



# Grassland Society of NSW Inc

## Newsletter

The Grasslands of the world have received a lot more publicity in Australia than usual in September with the 22nd International Grassland Congress (IGC) taking place in Sydney from September 15 to 19 plus a number of satellite and associated meetings around the country. I was not able to attend the IGC, but from all accounts it was a great event with plenty of lively discussions among the 800 plus delegates. Some highlights can be found on page 10.

I did attend an IGC satellite meeting prior to the IGC - "Pasture plant adaptation to drought and high temperature stress - incorporating 'The Second International Workshop on Summer Dormancy in Grasses'". The Grassland Society of NSW supported this very worthwhile meeting. Thirteen papers were presented to 45 attendees on topics

ranging from "leaf hydraulics - relevance to biomass potential, drought resistance and heat tolerance" to "Establishment, management and endophyte role in summer-dormant tall fescue in USA" The presentations from this meeting will be available on the Grassland Society of NSW website [www.grasslandnsw.com.au](http://www.grasslandnsw.com.au) soon. Congratulations to Mark Norton from DPI Wagga Wagga for organising a diverse range of speakers.

The Grassland Society of NSW Annual General Meeting was held on September 25. At this meeting the State Executive and committee were elected for the 2013/2014 year - see page 2 for a full listing of the executive and committee. After nine years as President, Mick Duncan has decided to hand over the reins to someone new. Mick has done a wonderful job as President implementing many practices and changes to our website, newsletter and

general operations resulting in improved services for you the members. Mick's last "From the President" is on page 15.

On behalf of the 2012/2013 committee I would like to thank our sponsors in 2012/2013, without their support Grassland Society of NSW activities such would not be possible.

I was recently reading through past issues of the newsletter from the 1980s and 1990s and was struck by how many letters to the Editor appeared - sometimes four in a single issue! So let's bring back this tradition - I appeal for any articles, letters or ideas for articles or activities from you all. The best way to contact me is by email at [carol.harris@dpi.nsw.gov.au](mailto:carol.harris@dpi.nsw.gov.au)

*Carol Harris*  
Editor



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### 2013/2014 MEMBERSHIP SUBSCRIPTION REMINDER

Your annual Grassland Society of NSW subscription of \$60 for 2013/2014 was due July 1 2013.

NOTE: SUBSCRIPTION FEE IS NOW \$60

Payment methods: Cheque, Credit Card (Mastercard or Visa) or electronic\*

Account Name: Grassland Society of NSW  
BSB: 032 833  
Account No: 421 690  
Bank: Westpac  
Reference: 'Surname' and then 'first name'

\* If paying by electronic banking, don't forget to email the Secretary ([secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au)) with your details

## New President for the Grassland Society of NSW

After nine years at the helm Mick Duncan decided not to stand for another term as President of the Grassland Society of NSW at the recent AGM (September 25) in Orange.

In the election for officer bearers David Harbison was elected unopposed as the new President.



*New Grassland Society of NSW President - David Harbison*

David is a Director of D R Agriculture Pty Ltd, Molong and would be well known to many of our members. David has been an active member of the Grassland Society of NSW management committee for a number of years and was the conference convenor at the 2011 conference at Bathurst.

David is looking forward to the challenges ahead as President and would welcome input from all members on the future direction of the Grassland Society of NSW.

The management committee on behalf of the members would like to thank Mick Duncan for his commitment and dedication during his time as President

over the past nine years and look forward to his continued contribution as a committee member.

The election of the remaining positions on the management committee were

Vice President - Lester McCormick

Treasurer - Frank McRae

Editor - Carol Harris

Committee - John Coughlan, Hugh Dove, Nathan Ferguson, Keith Garlick, John Ive, Hayley Pattison and Warwick Wheatly.

Janelle Witschi continues as Secretary.



## Grassland Society of NSW - Pasture Updates

Following on from the success of the recent Pasture Update at Trangie on September 12 the Grassland Society of NSW will be holding two meetings/field days as part of it's Pasture Update series sponsored by Meat and Livestock Australia.

The first will be held at Bingara in North West NSW on November 8, 2013

The day will commence at 9.30 at the Roxy Theatre in Bingara. Topics to be covered in this morning session will include - pasture nutrition, drought feeding, changes to the Native Vegetation Act, new temperate hardseeded legume options and establishment and increasing nitrogen production from legumes.

Lunch will be at Phillip and Annette Butler's property 'Glenayre' followed by a discussion on the changes to the pasture systems on 'Glenayre' and an inspection of NSW DPI experiments investigating tropical and temperate companion legumes for tropical grass based pastures. The field day will conclude around 4 pm.

The second Pasture Update day will be held in the Taree area on December 5, 2013. Program details are being finalised and will be available on the Grassland Society of NSW website soon.

For more information and/or to register for a Pasture Update please contact Janelle by email [secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au) or visit the website [www.grasslandnsw.com.au](http://www.grasslandnsw.com.au)



## Flexibility the key to capitalising on lucerne

Lucerne has long been regarded as an essential component of grazing systems in southern Australia. It extends the pasture growing season into summer and even autumn under favourable seasonal conditions. This allows lambs of later-lambing enterprises to be finished on pasture rather than grain, increasing enterprise gross margins and profitability.

But knowing how much of the pasture base to sow to lucerne can be difficult, especially given the range of seasonal conditions experienced in recent years.

Six years of trial work at the Wagga Wagga EverGraze Proof Site in southern NSW have studied the value of having up to 40% of pastures sown to lucerne in a grazing system under various production systems and seasonal conditions.

The final findings from this research show lucerne can provide longer periods of green feed on which to finish lambs to higher weights in good seasons.

Lucerne can also reduce the potential for groundwater recharge, minimising the impacts of salinity.

### Key Points

- In wet springs and summers, more lucerne in a grazing system can result in higher lamb production and gross margins.
- Supplementary feeding costs can be reduced in drought years in a spring lambing system with 40% lucerne pastures.
- Lucerne can help increase scanning rates and reduce groundwater recharge and waterlogging.
- Livestock enterprises must have the flexibility to profitably utilise the extra feed created by having lucerne-based pastures.

But to fully utilise the benefits of lucerne within a production system, the livestock enterprise must be flexible enough to use the extra out-of-season feed it provides.

### Trial details

To see what effect changing the proportion of lucerne in the pasture base had on lamb production, researchers at the Wagga Wagga Proof Site used a September-lambing sheep system in a replicated grazing experiment.

EverGraze Proof Site leader Dr Michael Friend (Charles Sturt University), said the experiment aimed to see if there were any benefits from sowing more than 20% of the farm to a summer-active perennial species.

“We wanted to develop a robust grazing system based on perennials,” Michael said.

“It needed to be highly profitable and achieve NRM outcomes such as maintaining sufficient groundcover.”

“We knew more lucerne in the system would also reduce groundwater recharge, but would it compromise returns?”

Two systems with differing levels of a winter-active lucerne variety (dormancy 6) were used in the trials – a Low (20%) Lucerne system and High (40%) Lucerne system.

“The Low lucerne system consisted of 20% of the farm being sown to lucerne, 60% to phalaris and 20% to tall fescue, while the High lucerne pasture system had 40% of the farm sown to lucerne, 45% to phalaris and 15% to tall fescue,” Michael explained.

“Each pasture species was sown with sub-clover, and in separate paddocks. Each farm system had three replicates of 5 ha each. The long-term average rainfall at the site was 620 mm.”

### Multi-purpose flocks

Half the CentrePlus ewes used for each system were joined to Merinos, the other half to terminal sires. This allowed a higher level of lamb production than joining only to Merinos, but still allowed replacement ewes to be bred.

“Both systems aimed to sell all lambs at weaning, so only ewes were carried over summer. High lamb production was achieved through high numbers, rather than high individual lamb liveweights,” Michael said.

“It was thought that having lucerne in the system provided an opportunity to finish the lambs to a higher weight if seasonal conditions allowed, but this may come at the cost of winter feed and higher winter supplementation”.

“Both systems used the same stocking rate during July to enable a fair comparison, as this is the time most limiting feed for this region.”  
Drought feed

The combination of drought years (2006–2009) followed by two wet summers (2010 and 2011) allowed the two lucerne systems to be tested at the extremes of the district climate, with modelling also used to provide a longer-term outlook.

“During the drought years, the two ‘farms’ had to be destocked at certain periods to maintain groundcover,” Michael said.

“But sheep grazed the lucerne in both blocks during each summer and autumn, with the High lucerne system providing the most feed.”

“There was no penalty to lamb production when the proportion of lucerne was increased from 20% to 40% of the pasture base in these drought years, nor was there any difference in wool production or wool quality.”

“But there were differences in supplementary feed costs, which were reduced during the drought years in the High lucerne system compared with the Low lucerne system. This translated into higher gross margins for the High lucerne system.”

### Wonderful wet

When the drought finally broke during 2010, the value of lucerne was obvious.

“There was not enough lucerne in the Low lucerne system to hold onto lambs for long after weaning during 2010,” Michael said.

“Total production in kilograms of liveweight lamb sold was 197 kg/ha for

**Table 1 Variations between the High and Low lucerne systems at Wagga Wagga**

System	2006	2007	2008	2009	2010
Liveweight of lambs sold (kg/ha)					
High Lucerne (40%)	170	157	168	211	365
Low Lucerne (20%)	168	144	165	198	197
Supplement fed (kg/ha)					
High Lucerne (40%)	1429	686	1118	1106	274
Low Lucerne (20%)	1517	742	1317	1125	274
Gross margin (\$/ha)					
High Lucerne (40%)	23	118	37	145	567
Low Lucerne (20%)	29	88	24	108	303

Source *EverGraze*

the Low lucerne system in 2010, which was similar to that produced in 2009 from the same system.”

“Lambing the ewes in September on the phalaris, and then grazing on the fescue, enabled the lucerne to be saved to wean the lambs onto during December in both systems.”

“The High lucerne system supported the lambs for an extra 62 days in the summer of 2010–2011.”

“This resulted in an extra 168 kg/ha lamb being produced from the High lucerne system compared with the Low lucerne system, and a subsequent increase in gross margin of \$264/ha for that system.”

The variations between the High and Low lucerne systems for lamb production, supplement fed and gross margins for the years 2006–2010 are shown in Table 1.

### Split lambing

In the Low lucerne system, a July lambing system was compared the September lambing system and a split lambing system.

For the split lambing, half the ewes were joined for two weeks to a terminal sire for July lambing, and the remaining ewes were joined to a Merino for a September lambing.

Stocking rates were based on the demand for winter feed in each system, so the September lambing system carried the most ewes, followed by the split and July systems.

The split lambing was the most profitable of the three systems. This was because in the dry years, supplementary feeding costs were lower than the September

lambing system, while in the wet years, there were more lambs to take advantage of the extra lucerne.

### Adding more lucerne

A higher percentage of lucerne in the grazing system added further benefits to split lambing. Since 2011, the researcher at Wagga Wagga have used the split lambing system to allow further production comparisons between the Low and High lucerne systems, and included another system of just perennial grasses, where the sheep have no lucerne to graze at all.

The wet spring and summer of 2011 meant both lucerne systems produced more lambs than the perennial grass-only (paddocks of phalaris and tall fescue) system, as the lambs could be grown out for longer.

Lambs born in July were sold in January 2012 at 52 kg liveweight from the High lucerne system compared to only 34 kg from the grass-only system.

The High lucerne system also enabled September-born lambs to be grown out until sale in May at 58 kg, while lambs from the other systems had to be sold in January at about 34 kg liveweight.

### Added benefits

The lucerne component of the Wagga Wagga Proof site showed having 40% of the farm (in that environment) sown to lucerne can provide higher margins in good years and slightly reduce supplementary feeding costs in drought years (increasing margins), relative to a system with 20% lucerne.

It was shown that, if correctly managed, lucerne can persist for more than eight years.

Flushing ewes (increasing nutrition before mating) on lucerne can increase marking percentages by 10%, although this was not included in the gross margin analysis, (see Future Farm Issue 6, p13).

In a concurrent study on the site, lucerne proved to be more effective than shrubs planted mid-slope in reducing groundwater recharge and waterlogging.

### Key message

It is critical that any production system using lucerne in the pasture base has the flexibility to take full advantage of the extra green feed, while still having the capability to adapt stocking rates during dry years.

The increase in gross margins from having lucerne in the system at the Wagga Wagga Proof site predominantly came from the higher sale weight of the lambs, rather than from higher stocking rates.

It was therefore essential these systems could delay selling lambs in good seasons to capture the benefit of the lucerne, and yet remaining profitable and sustainable during drought years.

Other ways to increase stocking rate flexibility would be to trade livestock or adopt a split lambing system.

For more information contact

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## Regional EverGraze packages

Whether you're in a water-logged or drought-affected area, on the west or the east coast, the EverGraze regional packages offer evidence-based options for producers in the high rainfall zone across southern Australia – at the click of a mouse.

The regionally relevant strategies and information on grazing systems and farm management are now available on the new EverGraze website.

For the first time, producers in the NSW Central Tablelands, the south coast of WA, south-west Victoria, north-east Victoria, the northern slopes of NSW and the southern slopes of NSW have easy-to-navigate, practical, evidence-based information tailored to their region's unique climate, topography and soil types.

Another region – Victoria's east Gippsland – will be added towards the end of this year and more will follow as resources allow.

Project Leader Kate Sargeant said the Regional Packages brought the latest research and development outcomes right to the farm gate.

"Each region can be described in relation to the climate, soils, pastures, enterprise types and issues to be addressed," she said.

"With the regional context defined, these information packages can then target each region's unique needs. Also, by focusing on communicating how research outputs are relevant to local farming systems, I think we will fast-track their benefits to both industry and the environment."

Kate said one of the project's greatest strengths was its trouble-shooting option where producers can click on the "I want to..." section to tackle common problems in that particular area.

"For example, in the south west Victoria package, producers can learn the most

relevant strategies for filling the winter feed gap," she said.

"The options presented consider grazing management, livestock system set-up, pasture species and tactical management options, such as the use of gibberellic acid and nitrogen.

"Tools including the Feed Budget and Rotation Planner, which is used for developing feed budgets and costing different winter feed options, help producers make the best decisions for their unique situations."

Each regional package features information on soils, climate, pastures, relevant research sites and case studies, livestock systems, benchmarking and environmental issues.

Kate said the packages are a work in progress.

"Initially, the focus has been to present the outcomes from EverGraze research.

The image shows a screenshot of the EverGraze website. At the top left is the EverGraze logo with the tagline "More livestock from perennials". To the right, three key benefits are listed: "More perennials", "Better livestock", and "Healthier catchments". A yellow banner across the top right says "Check out at the new website [www.evergraze.com.au](http://www.evergraze.com.au)".

The main content area features a navigation menu with categories: Home, Regional Information, Research, Demonstration and Case Studies, On Farm Options, Training and Events, Tools, and Media and News. A central map of Australia highlights the six regions covered by the packages. Callout boxes provide details on various features:

- Information about local soils, climate, pastures, livestock systems, environmental issues, livestock issues and benchmarks.**
- Findings from research compiled into messages which explain what they mean to on-farm decision making, including analysis of costs and benefits to profit, risk management and environmental management.**
- Tools including the Feed Budget and Rotation Planner, feed on offer guides, the EverGraze Pasture Improvement Calculator, a new Tactical Management for Green Feed Calculator and more. Hard copy and YouTube tutorial guides are also provided for using the calculators.**
- Training and events relevant to each region.**
- Provides information on pasture species, grazing management, livestock systems, feed budgeting and tactical management options.**
- Case studies and demonstrations from each region which tell the stories of how farmers have integrated change into their management, and the resulting impact on their businesses.**
- Easy-to-read evidence-based recommendations for practice change options to address issues relevant to each of six regions.**

At the bottom, logos for partner organizations are displayed, including CRC, QUT, and others.

With time, more information will be added to address the breadth of grazing system-related issues and opportunities in each region, and as new research and development comes to hand.”

**What is EverGraze?**

EverGraze is a national research, development and extension project based on the principle: ‘put the right plant in the right place for the right purpose with the right management’.

The project aims to significantly increase the profitability of livestock enterprises in the high rainfall zone of southern Australia, while reducing ground water recharge and soil loss by wind and water.

EverGraze is funded by Meat and Livestock Australia, in partnership with the Future Farm Industries CRC and CMAs and Australian Wool Innovation.

**Fast facts**

- Regional Packages combine recommendations from EverGraze with principles, tools and training tailored to each region
- All southern producers in the high-rainfall zone will find the tools and information useful
- The resources include material on pasture species, grazing management and livestock systems
- The information has been gathered from six large-scale research sites, regional advisory groups, on-farm experience and more than 60 demonstration sites and farmer case studies across southern Australia

- The packages are web-based, providing user-friendly documents linked to detailed information on research and other resources

View the regional packages on the new EverGraze website

[www.evergraze.com.au](http://www.evergraze.com.au)

**New Grassland Society of NSW Members**

The Grassland Society of NSW welcomes new members Jim Virgona, Wagga Wagga; Boase Bangita, Canberra; Colin Hamilton, Narromine; Ted Whittle, Narromine; Shaun Bailey, South Melbourne; Tony Sanders, Tambar Springs; Paul Greenwood, Armidale; Amanda Adams, Armidale and Neroli Brennan, Trangie

**EverGraze**  
More livestock from perennials

**In 2012 EverGraze will release regionally relevant information packages for southern Australian farmers and agribusiness**

Information packages, tailored for regions, will be available online in late 2012 and include recommendations to improve profitability and environmental management of livestock enterprises including:

- Feedbase • Grazing management
- Livestock systems • Soil management

Training for producers and advisors in whole farm grazing strategies will begin in early 2013.

Logos: awi, mla, FUTURE FARM INDUSTRIES CRC

Visit [www.evergraze.com.au](http://www.evergraze.com.au) for more information

An Australian Government Initiative | CRC

**FUTURE FARM INDUSTRIES CRC**

**Innovation in profitable perennial farming systems across southern Australia**

The CRC acknowledges the support and commitment of its Participants:

Logos: awi, GRDC, mla, CSIRO, Charles Sturt University, THE UNIVERSITY OF ADELAIDE, THE UNIVERSITY OF MELBOURNE, THE UNIVERSITY OF WESTERN AUSTRALIA, DEPARTMENT OF AGRICULTURE AND FOOD, DEPARTMENT OF ENVIRONMENT AND CONSERVATION, GOVERNMENT OF SOUTH AUSTRALIA, SARDI, NSW Office of Environment & Heritage, NSW Primary Industries, VICTORIA Department of Primary Industries, LANDMARK

Find out how our research can benefit you [www.futurefarmonline.com.au](http://www.futurefarmonline.com.au)

An Australian Government Initiative | CRC

## Merino 2014 - the 9th World Merino Conference - South Africa



The Australian Association of Stud Merino Breeders (AASMB) invites you to join its South African Trade Mission in 2014. The Trade Mission will incorporate the 9th World Merino Conference to be held in the historic town of Stellenbosch, 50kms east of Cape Town.

A Merino Expo is planned for 28 and 29 April with a joint Merino 2014/IWTO afternoon and evening session on 29 April. The 9th World Merino Conference, "Merino Breeding: Sustainable Enterprise - Cherished Lifestyle", then follows on 30 April and 1 May. Participants in the organisation of Merino 2014 are the Merino, Dohne and SAMM breed societies of South Africa.



### Study Tours and South African Highlights

Pre- and post-conference tours of varying lengths will be offered from 18 April and from 3 May. A wide range of experiences will be catered for from a focus on Merino farming and science and associated industries and institutions in South Africa to wildlife parks, battle fields, vineyards, architecture, indigenous cultures and the unique scenic and geographical highlights of South Africa.

**Date:** 28 and 29 April 2014

**Location:** Stellenbosch, South Africa

**Organiser:** The AASMB, with the support of Australian Wool Innovation, offers the only official Trade Mission (including travel and tours) to Merino 2014 and the 9th World Merino Conference. The AASMB has appointed Carol-Ann Malouf to coordinate the trade mission programme and further details of the itinerary and content as well as registration information will be available as they come to hand through 2013.

Interested persons may register an expression of interest to:

Carol-Ann: (02) 6895 2274 or 0427 119 535

or email [carol-annmalouf@bigpond.com](mailto:carol-annmalouf@bigpond.com)

Website: [www.merino2014.com](http://www.merino2014.com)



Don't forget travel Grants are open to financial members of the Grassland Society of NSW with at least two years of continuous membership prior to the date of application - funding is available to attend conferences or other activities associated with grassland science. The committee are particularly interested in applications from our producer members.

More details can be found on the website ([www.grasslandnsw.com.au](http://www.grasslandnsw.com.au)) under the membership tab or by contacting the Secretary ([secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au))

## Research Update

Keeping you up-to-date with pasture and grassland research in Australia. Abstracts of recently published research papers will be reprinted as well as the citation and author details in you wish to follow up the full paper.

### Cicerone project: exploring profitable and sustainable grazing enterprises through producer-led research, extension and adoption

Volume 53 (7 & 8) 2013

<http://www.publish.csiro.au/nid/73/issue/6548.htm>

*This Special Issue of Animal Production Science (Cicerone Project) describes how a group of livestock producers, researchers, extension specialists and consultants went about 'bridging the gap' between research and primary producers. The investigations carried out were highly relevant to livestock producers because the research questions were based on a broad survey of those same producers. Whilst the work was conducted in a particular region, with its summer-dominant rainfall and generally temperate environment, we believe that many of the findings are highly relevant to other regions and, in a social sense, to all those who seek to influence the practices used by primary producers.*

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# Feed on Offer Library now online

Geoffrey Saul, PSA Services, Hamilton

A new online Feed On Offer Library is now available at

[www.feedonofferlibrary.com](http://www.feedonofferlibrary.com)



The library was developed to assist producers and consultants improve their knowledge of the amount and quality of pasture in a paddock. This is particularly important in projects like Lifetime Ewe Management, using the Grazfeed program or other grazing animal applications. The Feed On Offer Library was funded by Australian Wool Innovation and developed in collaboration with the Rural Industries Skills Training centre at Hamilton.

The library contains 450 photos of pastures in different seasons, at different Feed on Offer values (200 – 10,000 kg/ha), with over 30 different species and in a range of environments from Cool Temperate to Rangelands environments, in WA, SA, VIC, NSW and southern QLD. For each photo, the key nutritive values details are provided including Green Feed on Offer, Dead Feed on Offer, Legume content, Pasture height, Digestibility, Protein, and ME (Metabolisable Energy). These values have been used to calculate the intake (MJ/day) if grazed by a 50 kg dry sheep to allow comparisons of the nutritive value of the different pastures.

To use the library, set the Search function

to select the library records appropriate to your region or farm. These can be saved as a PDF file for later use. In this way, files for different times of the year, different species, and different growth stages can be established. These files can then be printed off in either A4 or A5 format for easier use in the paddock or with groups.

A screen shot from the Feed On Offer library is shown below.

	Green	Dead
		
Feed On Offer (kg/ha):	1,100	1,400
Digestibility (%):	61	36
Equivalent to		
Metabolizable Energy (MJ/Kg):	8.9	4.5
Sheep Intake (MJ/day): 50kg dry, Condition score 3	6.6	
Crude Protein (%):	21	10.9
Pasture Height (cm):	2.5	1.5
Ground Cover (%):	100	
Legume (%):	30	
State:	VIC	
Location:	North Central	
Climate Zone:	Cool Temperate	
Major Species:	Phalaris	

37LW-IMG3375

# Highlights from the 22nd International Grassland Congress

The 22nd International Grassland Congress (IGC) - "Revitalising grasslands to sustain our communities" was recently held in Sydney (September 15-19). Grasslands cover about 40% of world's land surface. They are crucial to the livelihoods of more than one billion people, providing fibre, fuel and food. They make vital contributions to the conservation of biodiversity and to ameliorating climate change through carbon sequestration. However, they face the pressures of global population growth, challenges caused by demand for other food sources, the impact of climate change and declining funding for Research & Development.

Eight hundred plus delegates from over 60 countries discussed how to revitalize grasslands for people, livestock and the environment at the IGC - a pre-eminent global forum held only every four years. Other issues considered by the world's prominent livestock and grassland researchers, as well as farmers, agri-business interests, decision-makers and environmentalists included :- the global food security challenge and the role of livestock, trade-offs between livestock, human health and the environment, Australia as a drought hot spot in global grazing lands, prospects to reduce livestock's noxious emissions & climate change, lessons from work underway to control pesky rabbits, squirrels and zokors, what Mongolia can teach us about control of locusts, hopes for perennial wheat varieties and the benefits they hold over annual varieties, new grasses that can deter birds from airfields and sportsgrounds, the latest technologies like remote sensing, GIS and precision agriculture, how farms in Asia and Africa could be boosted by garbage bag technology, what farmers need from grasslands and livestock research, how to engage more young people in study and careers in agriculture, how could the market pay farmers to off-set greenhouse emissions - will \$37/tonne do it? and new reseeded tools for more successful restoration of rangelands that protect wildlife habitat, support local farms and decrease likelihood of severe wildfires.

Below are some presentation highlights from the congress. For more information on the IGC go [www.igc2013.com/](http://www.igc2013.com/)

## **AUSTRALIA - A DROUGHT HOT SPOT BY 2080-2100.** Grassland and Livestock Management Solutions Needed

Climate smart grassland and livestock systems that sustainably increase productivity and resilience, reduce greenhouse gas (GHG) emissions, and enhance development are important parts of the solution to the challenges of climate change and food security.

This was the message given by a climate change expert, Professor Jean-Francois Soussana who shared the 2007 Nobel Prize for Peace with other members of the IPCC and Al Gore.

Professor Soussana made a keynote address to the 22nd International Grassland Congress – a pre-eminent global forum held only every four years.

"By the end of the 21st century, a global temperature rise between 1.5 and 4°C compared to 1980-1999 and CO<sub>2</sub> concentrations in the range 550-900 ppm are expected, together with an increased frequency of extreme climatic events such as heat waves, droughts, and heavy rain. These are likely to negatively affect grassland production and livestock systems in a number of world regions," said Prof Soussana, who is Scientific Director for the Environment at French National Institute for Agronomic Research (INRA), Grassland Ecosystem Research.

"Climate change vulnerability will be highest in regional hot spots with high exposure to climatic extremes and low adaptive capacity, such as extensive systems in dryland areas".

"Australia is expected to be a drought hot spot in global grazing lands by 2080-

2100, with a significant increased number of consecutive dry days compared to 1980-2000".

"Another hot spot is in the South East Asian region where small-holders have the lowest capacity to adapt. They are likely to be among the most vulnerable because social, economic, climatic risks are high, and adaptation is difficult due to limited development and infrastructures, inadequate institutions, low access to information and unsecure rights on land and natural resources".

"Sustainable livestock intensification will be part of the solution to enhance food security and contribute to mitigating climate change by stopping deforestation and the expansion of grasslands into savannahs.

"While grasslands and livestock systems are likely to be hard hit by climate change, their improved management has a large potential to mitigate livestock GHG emissions at a low or even negative cost, by combining a moderate intensification, the restoration of degraded pastures and the development of silvo-pastoral systems.

"Increased international collaboration to improve understanding of the synergies and trade-offs between grassland adaptation and mitigation options, involving producers, industry associations, academia, the public sector and intergovernmental organizations is a priority to foster the needed science and innovation", he concluded.

## **ATTRACTING THE NEXT GENERATION OF GRASSLAND RESEARCHERS**

Reflecting the 'slow patch' that has hit

grasslands Research & Development (R&D) around the world, a pre-eminent global forum on grasslands focused on revitalising the sector through attracting new researchers, ensuring they get the right training and skills, and that there's funding for them to do the required research.

"In Australia, grasslands R&D has been in a slow patch for some time and similar situations exist around the world. As well as the usual focus on innovation, the core objective at this global gathering of prominent scientists, advisers and farmers, many of whom are on the cusp of retirement, was to foster their interaction with and support of, the 'electronic generation' in solving grasslands problems," said Professor David Kemp, President of the Organising Committee of the 22nd International Grassland Congress

The event included a special effort to attract early career researchers and provide them with opportunities to present their ideas, to meet with potential mentors and to promote discussion about current and future issues that are relevant to the sustainable utilisation of the world's grasslands.

In addition to a range of addresses by international and Australian speakers around the topic of building capacity to manage grassland challenges, an Early Career Research Forum titled "Making the grass greener for early career grassland researchers" highlighted interesting careers in grasslands research.

Dr Denis Blight, chief executive of the Crawford Fund which supported the Early Career focus, said "The

congress emphasis on attracting young people strikes a chord across both the international and national agricultural research sectors – agriculture needs young people in farming through to international science frontiers.”  
 “Papers at the congress provide good fodder for innovative approaches to do so,” said Denis who chaired the session on engaging the next generation.

Ralph von Kaufmann, recently Coordinator of the Forum of Agricultural Research in Africa's Universities, Business & Research in Agricultural Innovation (UniBRAIN) Facility said “My review of grassland issues identified many critical skills that are lacking but it also revealed models of public-private partnerships involving educators, entrepreneurs and researchers that could, by enabling the parties to work together, revitalise the skill base in grassland research and practice,” Mr Kaufmann said.

James Pratley from Charles Sturt University addressed the strengths and weaknesses of agricultural research systems and suggested ways of attracting the next generation of grassland researchers. He believes availability of R&D funds is of major concern in relation to grasslands.

“Grasslands research depends heavily on the National Agricultural Research System for its R&D outcomes. Future outcomes are uncertain as funding sources have contracted and much of the expertise enters the retirement phase without a succession plan.”

“The agricultural industries and the decision makers in R&D need to seriously consider the means to rebuild this expertise as all nations face the food security challenges ahead. Modernising the conditions for research scholars and early career researchers has to be part of the consideration,” he said.

### 2013 HOWARD ORATION – A FUTURE VISION FOR THE AUSTRALIAN SHEEP-WHEAT BELT

Scientists expect to be understood by farmers and it is important for them to provide a reciprocal understanding of the current circumstances of farmers, for each to benefit and the environment to remain healthy. And the current business models of most mixed farms in Australia are not viable and they need to be overhauled for family farms and rural communities to survive.

These were the key messages to be given by Emeritus Professor Ted Wolfe of the

Graham Centre for Agricultural Innovation at Wagga Wagga, in his Howard Oration presented at the IGC.

The oration is in memory of Amos William Howard whose foresight recognised the great promise of subterranean clover—now one of the most important pasture plants in Australia.

Professor Wolfe discussed five properties of any farming system that need to be considered to gain an industry-wide understanding of the ‘big picture’. These included the productivity, sustainability, economic performance, social well-being and political acceptability of agricultural industries, systems and regions.

Professor Wolfe also described four big problems that undermine the current performance of the famous Australian sheep-wheat belt, a mixed farming system which produces an important range of crop and livestock products for domestic consumption and export.

The first problem was the plateau in the production of Australian crops, particularly wheat which appears to be due to limitations in the supply of nitrogen in crops, a consequence of insufficient areas and quality of N-fixing legumes in the mixed farming system.

A second issue is the need to reconcile agricultural objectives with natural resource management goals, such as the need to conserve significant areas of remnant vegetation, provide habitat for migrating birds, protect soils from erosion, reduce air and water pollution.

“Too often, there are groups of agricultural and environmental scientists working in isolation, with each group rejecting the approaches of the other. There is a need for these groups to work collaboratively with each other and with farmers to produce healthy landscapes and provide ecosystem services, some of which may be crucial for the survival of the planet.”

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“Farmers need a range of incentives to contribute towards carbon sequestration, biodiversity and other environmental stewardship objectives, which otherwise may produce long-term ecological gains for society but at an economic cost for the landholder.”

The third issue he highlighted was that most mixed farms are making a business loss each year.

“Declining terms of trade, highly variable incomes due to rainfall and market fluctuations, the rigidity of farm costs and unfair local and global competition have contributed to the financial predicament of farm businesses, a predicament that has to some extent been masked by an upward trend in land values.”

“Australian farmers are inadequately rewarded. The current business models of most mixed farms in Australia are not viable and they need to be overhauled for family farms and rural communities to survive. Traditional agribusiness practices and a lack of trained agribusiness

professionals are holding agriculture back.”

Finally, Professor Wolfe drew attention to the ‘specialise or diversify’ conflict that is at the heart of the decline since 1975 of the sheep enterprise on Australian mixed farms.

“Most farmers enjoy sowing and harvesting crops but they must also sow pastures and graze livestock upon them to gain the synergies from the mixed farming system, ensuring nitrogen supply for crops, controlling weeds and coping with drought.”

According to Professor Wolfe, the answer here appears to lie in the complementary skills of the business partners who operate each farm or group of farms.

The complexity of multiple farm enterprises can be addressed by at least two individuals specialising within the farm business, to ensure that each enterprise received the attention to detail that is required to maximise business success.

“Successful farm families or partnerships occur when producers share an absolute commitment to seeking out and evaluating information, enterprise by enterprise and for the farm business as a whole. The top farmers are not necessarily early adopters but they plan carefully and control costs tightly. In short, generational change is happening in the sheep-wheat belt.”

“The benefits that may come from innovation in the economic, financial and social aspects of agriculture are as important as refining the technology of production. We must turn around the situation where more than 50% of farm families are experiencing financial and emotional stress.”

“In the Australian sheep-wheat belt, policies at the R&D, industry and political levels must take into account agricultural stability and community well-being. There is a need for a nation-building approach to land management, much as New Zealand does with its dairy, sheep, horticultural and wine industries,” he concluded

## Putting pastures on trial

A new project aims to produce a ‘one-stop-shop’ pasture database to support producers in their decision making to improve their pastures.

A partnership between Meat and Livestock Australia (MLA) and the Australian Seed Federation (ASF), the Pasture Variety Trial Network (PVTN) will establish and manage independent trial sites.

Seed companies will provide data from variety trials to build an Australia-wide database for analysis. Results from the trial sites are expected in late 2014.

PVTN manager David Hudson said the program will give producers confidence to invest in new pastures by providing independent analysis of pasture variety performance across temperate regions.

varieties in a series of field trials throughout south-eastern Australia. The aim is to eventually establish trial sites across the temperate and subtropical livestock production regions of Australia.

“All information will be analysed by an MLA-appointed statistician and reviewed by the PVTN Technical Advisory Committee,” David said.

“In the past, there has been limited objective performance data to support producer decisions about which pasture variety to sow. This has resulted in uncertainty and little incentive to invest in new pastures,” David said.

The project will assess annual and perennial grass and legume pasture

“The data generated will be collated into a single database that producers and their advisers can use to confidently choose high-performance species for incorporating into a pasture renovation program in their particular regions.”

**Table 1. Number of varieties of pasture species commercially available and those entered into the PVTN trial**

Pasture Species	Commercial varieties	Entered in PVTN trial
Annual/Italian ryegrass	73	60
Perennial ryegrass	61	31
Tall fescue	29	12
Phalaris	16	12
Cocksfoot	22	14
Sub clover	32	20
Lucerne	51	20

## New legume easy guides available

Meat and Livestock Australia (MLA) have produced three easy guides to introduce producers to new legume varieties that can provide alternatives to sub clover - bladder clover, French serradella and biserrula.

The new legume varieties were recently studied in NSW and WA as part of an MLA-funded research project, and were identified following a 20-year worldwide search for alternative pasture varieties.

Traditionally, subterranean clover has been the most widely used pasture legume in southern Australia. However, subterranean clover is shallow rooted and therefore prone to production losses and perhaps more importantly seed production losses in dry and drought seasons.

Each of the newly developed annual legumes have either higher hard seed content and/or deeper root systems which confer protection in false break conditions and/or improve ability to survive dry periods through increased ability to access moisture.

Bladder clover (*Trifolium spumosum*) is an annual legume native to the Mediterranean areas of Eurasia. In its native range, bladder clover is commonly found growing in association with other annual legume species such as subterranean clover (*Trifolium subterraneum*). It has proven to be better at producing herbage and seed under variable climatic conditions, particularly where growing season rainfall is significantly below average, compared to subterranean clover in recent years in NSW.



Bladder clover

French serradella, is another tough new pasture legume finding its place in robust crop-pasture rotations. French serradella (*Ornithopus sativus*), also known as pink serradella, is an annual legume native to the Mediterranean region.



French serradella

French serradella is very closely related to other serradella species such as yellow serradella (*Ornithopus compressus*) and in its native region is often found growing in association with yellow serradella and other annual legumes such as subterranean clover

Biserrula (*Biserrula pelecinus*) is an annual legume native to the Mediterranean areas of Europe and Africa. Its range extends to cooler highland areas of Kenya, Ethiopia and Eritrea and it is also found in the Canary Islands. In its native range, biserrula is commonly found growing in association with other annual legume species such as subterranean clover and serradella.



Biserrula

Research Agronomist Dr Belinda Hackney has been working on an MLA-funded project to develop management packages for the three new varieties that would appeal to producers looking for greater flexibility in the crop-pasture rotation.

"Once the legumes' seed bank has established, they will regenerate after cropping," she said. "In our project, we evaluated 1:1 crop-pasture rotation systems, and all species performed well. The legumes provided organic nitrogen for the following

crop, as well as high-quality feed for livestock."

The length of the cropping phase and its effect on regeneration still needs to be clarified in NSW, as moisture and temperature differences can affect the rate of hard seed breakdown.

NSW trials found no difference in the yield and quality of wheat harvested following legumes compared with wheat supplied with nitrogen as di-ammonium phosphate.

Producers were also able to dry sow the hard-seeded unscarified or in-pod seed of some varieties in summer, using the high temperatures to break down hard seed and have it emerge on first good autumn rains.

Alternatively, they could 'twin sow' unscarified or in-pod seed with their normal winter cereal crop. The legumes emerged in the stubble the following year, eliminating the competition experienced in 'cover cropping'.

These information packages provide very useful information to farmers and their advisors on how to incorporate the three new species into southern farming systems.

To download the guides go to [www.mla.com.au/News-and-resources/Publications](http://www.mla.com.au/News-and-resources/Publications) and follow the prompts.

## NSW Government Launches Major Weeds Review

Minister for Primary Industries, Katrina Hodgkinson, has announced a major strategic review of weed management in NSW.

Ms Hodgkinson said she has asked Dr John Keniry AM, Commissioner for Natural Resources, to review current weed management, including existing regulation, governance and other intergovernmental agreements for biosecurity.

“The creation of Local Land Services (LLS) and the launch of the NSW Biosecurity Strategy provide an ideal opportunity to review weed management in NSW and how we can better support farmers and land managers to tackle problem weeds,” Ms Hodgkinson said. “Weeds are a menace for rural NSW, robbing our farmers of some \$1.2 billion in lost productivity each year.”

Ms Hodgkinson said the NSW Government has allocated \$10.8 million to weed management for the 2013-14

financial year through the NSW Weeds Action Program and the Weed Innovation Management Fund.

“Weed management was a key issue raised at the community workshops conducted as part of the development of LLS,” Ms Hodgkinson said.

“I told farmers who attended these workshops that we were committed to having a closer look at weed management in NSW and that’s what this review aims to do.

“I recognise the significant resources and effort currently dedicated to weed management in NSW from a range of bodies; especially Local Government but also private landholders and NSW Government agencies.

“This review provides an excellent opportunity to ensure this effort is undertaken in a regionally co-ordinated and efficient manner. This means working across all tenures – public and private –

and prioritising all our resources so that we reduce the productive losses as a result of weeds.”

Ms Hodgkinson said she has asked Dr Keniry to establish a steering committee – which will hold its first meeting this week – to ensure the terms of reference of the review are met and that stakeholder input is properly considered.

The steering committee will consist of Cr Reg Kidd, Chair of the Noxious Weeds Advisory Committee; Dr Bruce Christie, Executive Director Biosecurity NSW, Department of Primary Industries and Mr Bob Conroy from the Office of Environment and Heritage.

Landholders and other stakeholders will be invited to have their say as part of planned public consultation later in the year. Further information on the review, including the terms of reference, is available on the Natural Resources Commission website: [www.nrc.nsw.gov.au](http://www.nrc.nsw.gov.au)

## Weeds Apps available to make identification & management easier

### Weeds: The Ute Guide

An App based on the very popular weeds identification ute guide series is available as an App for iPhone, iPad and Android devices. A web version is to be released soon.



The App allows you to;

- Browse through weeds types or search for a specific weed.
- Refine your search based on distribution, cycle, flowering times and even by whether the weed has a distinctive smell.
- Where possible, photographs have been provided of the weed at various growth stages to assist with correct identification.
- Compare the stock images to new photographs taken in the field or photos stored in your devices image library.
- Use the App to email a photo of the problem weed to a contact in your devices address book to seek further clarification about the weed.

For more information on the WeedID App contact [www.grdc.com.au/Resources/App-Store](http://www.grdc.com.au/Resources/App-Store)

### WeedSmart

Is also available for download on iPhone, iPad and is supplemented by a web version of the App for users of other devices.

The WeedSmart App gets you to answer nine short and simple questions about the paddock’s farming system to receive an analysis your possible herbicide-resistance risk and weed seedbank risk.

The analysis will include suggestions for how soon you should take action.

The App also allows you to access the WeedSmart 10-point plan for 10 ways Australian producers can fight herbicide resistance.

For more information on the WeedSmart App go to [www.weedsmart.org.au/app](http://www.weedsmart.org.au/app)



## From the President

This will be the last column I write as Grassland Society President.

After 9 years in the chair, I feel it is timely to step down and hand over to a new President. Our founding fathers took the view that 3 years was the limit, but as a result of a change made to our constitution nearly 6 years ago, we opened the way for the president to go on for ever! Hence my long term.

It has been a great privilege to serve the Society in this capacity. I have been delighted to watch it grow and expand into the professional and very informative Society that it is. From the early days, starting in 1985, the Society with wise guidance from prominent producers and great assistance from NSW Department of Agriculture ( now DPI) agronomists, quickly established itself as a unique means of gathering producers and technologist together for the common good of sharing information. However, with recent major changes to the DPI, the organisation that has historically

supported the Society wholeheartedly since 1985, and the decreasing number of people from that organisation available to assist, we need to adapt and seek wider avenues for cooperation and support. Fortunately, this is already happening with the very successful MLA funded pasture update meetings of the last two years, and plans under way for more later this year.

As members are aware, we did not hold our annual conference this year to make way for the International Grassland Congress to take place. Next year we will be back in business with an annual conference, probably in northern NSW. More information on this will be available on our internet site as well as in future newsletters.

I would like to thank you, the members, for your support during my term. In addition, the committee members, who generously give their own time to the Society, attending and contributing to meetings at Orange each quarter. Finally,

many thanks to Janelle Witschi, who as secretary, has provided valuable and unfailing assistance, sometimes at odd hours, without complaint.

My last request is simple. To all members, please attempt to find one new member over the next 12 months. The Society is currently in a sound position, but complacency must be avoided and new members are vital to maintain any organisation.

Best wishes to all our members.

*Mick Duncan.*  
President.



*Don't forget the*

### PHOTO COMPETITION

*Send in your favourite pastoral or grassland landscape photo to go into the running for a years free membership.*

Email your digital photos to Carol Harris at [carol.harris@dpi.nsw.gov.au](mailto:carol.harris@dpi.nsw.gov.au)

Please provide a caption and/or location of the photo.

More details on the website  
[www.grasslandnsw.com.au](http://www.grasslandnsw.com.au)



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***The Grassland Society of NSW Inc is a unique blend of people with a common interest in developing our most important resource - our Grasslands***

The Grassland Society of NSW was formed in March 1985. The Society now has approximately 500 members and associates, 75% of whom are farmers and graziers. The balance of membership is made up of agricultural scientists, farm advisers, consultants, and or executives or representatives of organisations concerned with fertilisers, seeds, chemicals and machinery.

The aims of the Society are to advance the investigation of problems affecting grassland husbandry and to encourage the adoption into practice of results of research and practical experience. The Society holds an annual conference, publishes a quarterly newsletter, holds field days and is establishing regional branches throughout the state.

Membership is open to any person or company interested in grassland management and the aims of the Society. For membership details go to [www.grasslandnsw.com.au](http://www.grasslandnsw.com.au) or contact the Secretary at [secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au) or at PO Box 471 Orange 2800

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If you are interested in reactivating an old branch or forming a new branch please contact the Secretary at [secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au) or by mail at PO Box 471 Orange NSW 2800

***Grassland Society of NSW News***



**Next Newsletter:** The last issue of the newsletter for 2013 will be circulated in December. If you wish to submit an article, short item, letter to the Editor or photo for the second issue please send your contribution to the Editor - Carol Harris at [carol.harris@dpi.nsw.gov.au](mailto:carol.harris@dpi.nsw.gov.au) or DPI NSW 444 Strathbogie Road Glen Innes 2370. The deadline for submitting contributions for the next newsletter is October 31 2013.



**Electronic newsletter:** Don't forget you can receive the Grassland Society of NSW newsletter electronically. Just email your details to Janelle ([secretary@grasslandnsw.com.au](mailto:secretary@grasslandnsw.com.au)) and you will be added to the list. Next newsletter you will receive an email notification with a link to the newsletter on the website.

***Grassland Society of NSW - PO BOX 471 Orange NSW 2800, [www.grasslandnsw.com.au](http://www.grasslandnsw.com.au)***

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