



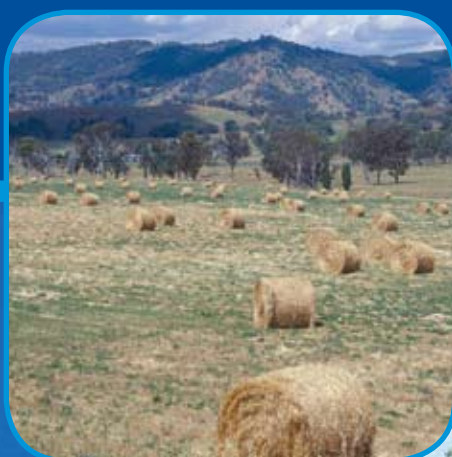
The Grassland Society of NSW Inc.

Final proof

Pastures at the Cutting Edge

Tamworth 2008

23rd Annual Conference





The Grassland Society of NSW Inc.

Pastures at the Cutting Edge

**Proceedings of the 23rd Annual Conference of the
Grassland Society of NSW**

**Tamworth Regional Entertainment & Conference Centre,
Tamworth, 21–23 July 2008**

Edited by Suzanne Boschma, Loretta Serafin and John Ayres

23rd Annual Conference



The Grassland Society of NSW

**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 about 500 members and associates, 75% of whom are farmers and graziers. The balance are agricultural scientists, farm advisers, consultants, and 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 grasslands 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 has established regional branches throughout the State.

Membership is open to any person or company interested in grassland management and the aims of the Society.

State Executive 2007-08

President	Mick Duncan
Vice President	Rob Eccles
Secretary	Dianne Smith, Janelle Witschi
Treasurer	Linda Ayres
Sponsorship	David Harbison
Committee	

John Coughlan, Hugh Dove, Haydn Lloyd-Davies, Richard Bloomfield, Frank McRae, Lester McCormick, Nigel Phillips, John Ive, Col Langford, Jeffrey House

Honorary Life Members

Malcolm Campbell, Peter Wrigley, Haydn Lloyd Davies, Warren McDonald, Jim Dellow

Branch Representatives 2007-08

North Western Slopes – Loretta Serafin
Central – John Coughlan
Southern Tablelands – Mike Keys
South Western Slopes and Riverina – Vacant
Western Slopes and Plains – Vacant
Northern Tablelands – Mick Duncan

2008 Conference Committee

Convenor	Loretta Serafin
Treasurer	Mark Kesby
Secretary	Lee Esdaile
Editors	Suzanne Boschma, John Ayres, Loretta Serafin
Editorial committee	Haydn Lloyd Davies, Mick Duncan
Sponsorship	David Harbison, Mick Duncan, Jacob O'Brien, John Thompson, Mark Kesby, Tony Stewart
Venues	Laurie Chaffey, Suzanne Boschma, Annette Cross
Catering	Annette Cross, Lee Esdaile, Laurie Chaffey
Publicity	Annette Cross, Warren McDonald
Tours	Lester McCormick, Tony Stewart, Bill Manning, Mark Kesby, Vince Tydd, Rob Eccles, Jacob O'Brien, Mick Duncan
Trade displays	Charlie Roberts

ISBN 978 0 7347 1918 8

Layout: Bill Noad, NSW DPI, Dubbo

Cover Design: Linda Dickson, Gecko Photographics, Orange

Citation: Proceedings of the 23rd Annual Conference of the Grassland Society of NSW Inc. Eds SP Boschma, LM Serafin, JF Ayres (Grassland Society of NSW, Orange NSW)

© The Grassland Society of NSW Inc. 2008

Enquiries and additional copies:

The Grassland Society of NSW, PO Box 471, Orange NSW 2800

Email: secretary@grasslandnsw.com.au

Website: www.grasslandnsw.com.au

Contents

The Grassland Society of NSW	2
Conference sponsors.....	3
Preface	7
Invited papers.....	8
Making pastures pay – the profit drivers	
Pushing the profit drivers for pasture.....	9
Factors affecting beef enterprise profitability – experiences from a grazing group in North-West New South Wales	15
Improved perennial pasture establishment at ‘Ruby Hills’	18
Taking control of soil health	
Options for managing soil phosphorus supply	23
Biochar: Potential for climate change mitigation, improved yield and soil health.....	30
Changing ‘Glenbrae’	34
Pastures on the horizon	
Profitable pastoral farming through genetic modification: fact or friction?	37
Pastures for animal production: Understanding the challenges	43
Towards a tropical grass package for northern New South Wales.....	51
Experiences with the establishment and grazing of tropical grasses on the North-West Slopes of New South Wales	58
Balancing pastures, livestock and climate	
Pastures in the high rainfall zone – Their anticipated responses to climate change and their role in minimising net farm greenhouse gas emissions.....	60
Defining the northern New South Wales feed-year and mitigating feed-gaps	70
‘The business of growing a meal’ – the application of new pasture varieties and management practices for intensive beef production.....	73
‘Art and science’ – producing high quality forage-based feed for intensive dairy production	75
Contributed papers	78
Making pastures pay – the profit drivers	
Assessing management options for the autumn feed deficit	79
Modelling feed profiles and production options.....	81
Pasture-cropping in a <i>Bothriochloa macra</i> (red grass) dominant pasture with a low input history	84
Evaluating change through feed budgets – the Beef-n-omics experience.....	87
Field germination of tropical grasses with new seed coating technology	89
Rate and depth of sowing of sulla (<i>Hedysarum coronarium</i>)	93
Effect of sowing depth on emergence of burgundy bean (<i>Macroptilium bracteatum</i>)	94
A comparison of the performance of progeny derived from two- and three-year old heifers and mature cows.....	96

Improved pasture establishment benefits production with pasture grasses	98
Taking control of soil health	
Soil phosphorus and sulphur in pastures of North-West Slopes and Upper Hunter districts of New South Wales	100
A review of the land application of biosolids as a tool to help restore and sustain New South Wales grasslands.....	102
Pastures on the horizon	
Combining yield with persistence –Pegasis, a new generation winter-active and persistent lucerne variety.....	105
Phoenix, Venture and Matador – new birdsfoot trefoil cultivars for permanent pasture applications in eastern Australia.....	107
Design and analysis for spatial effects in pasture trials.....	111
New <i>Panicum</i> cultivars on the horizon for northern New South Wales.....	114
Trophy – a locally adapted white clover cultivar for dry-land pastures.....	116
Where westerwolds work well.....	119
Performance of different lucerne dormancy classes under dry-land conditions.....	121
Lucerne persistence in Central New South Wales	124
Evaluation of new breeding populations of phalaris for the North-West Slopes of New South Wales ...	127
Preliminary evaluation of plantain (<i>Plantago lanceolata</i>) cultivar Tonic as a feed for ewe lactation.....	130
Balancing pastures, livestock and climate	
EverGraze research in northern New South Wales	133
EverGraze: grazing systems for native pastures in Central-West New South Wales.....	134
Studies of plant biodiversity on properties grazing sheep on the North-West Slopes of New South Wales.....	135
Rainfall and soil water content at a native pasture site near Barraba, New South Wales; 2003–2008	137
Using modelling to explore the relationships between predicted long-term stocking rate and sheep intake of pasture and supplement for a native perennial grass-based pasture near Barraba, New South Wales.....	141
Potential impact of climate variability on profitability of native pasture improvement in northern NSW	144
‘Drying Order’: A management tool for climate change	147
Fertilisation of tropical grass pastures with sulphate of ammonia	149
Improving the match between feed supply and feed intake of beef cattle on the North-West Plains	151

Disclaimers

The information contained in this publication is based on knowledge and understanding at the time of writing (June 2008). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with an appropriate adviser. The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product name does not imply endorsement by Grassland Society of NSW Inc. over any equivalent product from another manufacturer.

Preface

I extend a very warm welcome to all members attending this 23rd Annual Conference of the Grassland Society of NSW. I would also like to welcome those who are not members of the Society and I encourage you to join us.

This is the second conference of the Grassland Society to take place at Tamworth. This city offers so much to primary producers in cropping, pasture and animal production terms, and provides an ideal venue for everyone to hear, discuss and see 'cutting edge' and topical technology in a relaxed environment.

Plant and animal production depend heavily on new technology to complement sound agricultural science. The Grassland Society is a forum that brings together producers, agronomists, agri-business firms, animal scientists and teachers of agriculture to review and exchange high quality information relevant to grassland farming. The objective is the promotion of animal and plant production systems that embrace improved efficiencies and environmental responsibility. Pastures, both native and introduced, are the powerhouse of agriculture in all forms across Australia. They sustain above ground grazing animals and provide for microbial activity under the ground. In turn, pastures depend on good soil health to maintain production, suppress invasion from unproductive species and protect otherwise bare ground from erosion.

This conference examines the very topical subjects of 'pasture economics' and 'soil health' as these factors relate to grazing animals. The entire program will inspire producers and technologists, within the overall theme of 'Pastures at the Cutting Edge'.

The Organising Committee has put much time and effort into selecting expert speakers who will bring delegates up to date with current aspects of pasture and animal

technologies. The conference convener, Loretta Serafin and her team are to be congratulated and thanked for putting together such a stimulating program of formal sessions and paddock tours.

I would like to acknowledge our many sponsors representing the corporate and government sectors who regularly support the Grassland Society. Conferences of this nature do not happen without the substantial assistance of our sponsors. Furthermore, I encourage all conference delegates to visit the well-prepared commercial displays and exhibits. They are full of current information on new pasture varieties, fertiliser products, herbicides and management strategies to assist producers and their advisers. Please take time to talk with representatives of the trade exhibits. They are a valuable source of information and are always happy to discuss product developments with conference delegates.

Finally, I thank all you who are here to enjoy and learn from this conference. The Grassland Society is keen to maintain the high standards of previous years, and we invite suggestions to improve future activities. Please feel free to let any member of the Organising Committee know your thoughts in this regard. After all, the Grassland Society is only as effective as its members and depends on them for continued existence. I also encourage non-members to join and enjoy the many benefits of membership. Application forms can be printed from our internet site: www.grasslandnsw.com.au and are available from the registration desk at this conference.

Best wishes for a most enjoyable conference.

Mick Duncan
President