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Foreword

Australian Grassland Association Research Symposium 2021: Resilience in the Face of Change – Pastures for the Future

Pasture-based animal production systems must continue to evolve to meet the challenges of the future, including feeding a growing global population and maintaining or improving environmental outcomes while adapting to a changing climate. Australian pasture research workers continue a proud tradition of developing innovative technology to support producers confronting such challenges. The Australian Grassland Association (AGA) research symposium 'Resilience in the Face of Change – Pastures for the Future' was held as a weekly series of virtual sessions in March 2021. The symposium covered themes of plant improvement for the future, pasture systems for a changing climate, management for sustainable pasture systems, and adaptation to challenging soils, pasture pests and diseases. The presentations and discussions were expertly moderated by Dr Richard Simpson, Prof Richard Eckard, Dr Suzanne Boschma and Dr Lukas Van Zwieten, and we thank them for their contribution.

This Special Issue of Crop and Pasture Science presents the key scientific papers from the symposium. The pasture improvement session considered the important role of the Australian Pasture Genebank in conserving genetic diversity of pasture species (Smith *et al*. 2021) as well as the opportunities for selection for boron tolerance in *Medicago polymorpha* (Peck *et al*. 2021) and salinity tolerance and avoidance mechanisms in *Melilotus siculus* (Jeffery *et al*. 2021). Moore *et al*. (2021) highlighted the requirements for the development of commercially successful species in Mediterranean environments.

Pasture systems responses to the variable and changing climates experienced in Australia were explored in several ways, highlighting the range of approaches employed to address the challenges. Field studies to identify suitable species combinations (Boschma *et al*. 2021) and management options (Rogers *et al*. 2021*b*) were profiled along with plant physiological (Norton *et al*. 2021) and farm systems modelling approaches (Pembleton *et al*. 2021).

Other papers presented results on management options such as sowing configurations (Hayes *et al*. 2021), legume-rhizobia interactions (Rigg *et al*. 2021; Ballard and Peck 2021) and fertiliser responses (Rogers *et al*. 2021*a*; McLachlan *et al*. 2021). The biology and management options for combating ground pearls (Hemiptera: Margarodidae) was reviewed (Thomson *et al*. 2021).

This was the fifth in a series of AGA research symposia following on from the 'Australian Legume Symposium' (2012), 'Perennial Grasses in Pasture Production Systems' (2014), 'Livestock Productivity from Pastures' (2017) and 'Soil constraints to Pasture Productivity' (2019). The AGA was established to facilitate the ongoing improvement and development of pasture-based industries. We do this through providing a forum which brings together a wide range of industry stakeholders in order to:

- Facilitate interaction, exchange ideas and facilitate the presentation, peer review and publication of recent research;
- Provide an opportunity for all interested stakeholders to review and contribute to the advancement of pasture-based industries through science; and
- Consider and discuss the state of the pasture industry and research needed to meet present and future challenges.

The AGA symposium was put together by a dedicated committee of Dr Rowan Smith (President), Dr Keith Pembleton (Vice President), Stuart Kemp (Treasurer), Dr Beth Penrose (Secretary), Carol Harris, Dr Kevin Reed, Dr Phillip Nichols, Clinton Revell, Daniel Kidd and Dr Brendan Cullen. The committee would like to thank the symposium major sponsors Dairy Australia, along with minor sponsor Meat & Livestock Australia and session sponsors Barenbrug, PGG Wrightsons Seeds and the Cooperative Research Centre for High Performance Soils. We also thank Cussons Media who made sure that the technology for the virtual event ran smoothly.

I trust you will enjoy this special edition of Crop and Pasture Science and find it informative. I look forward to seeing you at the next Australian Grassland Association event.

Drs Brendan Cullen, Mark Norton and Kevin Reed
Editors, Australian Grassland Association Inc.

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