

Foreword – The Australian Legume Symposium

This Special Issue – Legume Research was the outcome of the inaugural venture of the Australian Grasslands Association – The Australian Legume Symposium held in Melbourne, February 2012. The collective power of the scientific, farming and extension community was invited to participate in this forum to review the past and current research and development in the legumes sector of the pastures industry. The attendees were also invited to contribute to the discussion on the direction that legume research and development should take in the medium to long term.

The Australian Grasslands Association is a joint initiative of the Grasslands Society of Southern Australia and the Grasslands Society of NSW, with a view to increasing the involvement of the societies in the scientific world. This has been designed to ensure the societies are not distracted from their core activities providing para-scientific forums to transfer research and knowledge among the industry to support farm management.

The primary activity of the Association will be to facilitate a number of pasture research reviews over the next five years. These reviews will be on a different topic each year and will result in a series of technical symposia that will have a common set of objectives:

1. To provide a forum for researchers to: interact, exchange ideas and have meaningful discussion, present and publish their research and participate in planning the role of pastures in Australia's future
2. To set the agenda for research for the medium term: the next 10 years (i.e. develop industry wide investment priorities for use by funding bodies), and
3. To consider the long-term 'Blue sky' ideas that will push the boundaries – what and how do we take the next quantum leap?

Legumes were chosen as the starting point for this research series as the contribution of legumes to grasslands farming, animal production, to broader agriculture and to the Australian economy is sometimes overlooked. As background, the benefits legumes confer to pasture growth through direct contribution and the nitrogen cycle (feeding pasture grasses), plus feed quality improvement and subsequent improvements in animal production are easily and commonly attributed to legumes.

Less often attributed to legumes are the benefits to subsequent grain and other crops, flowing from nitrogen fixation as well as other benefits derived from preceding pasture or ley phases and the business risk management benefits observed in recent years.

These benefits were identified very early in Australian agriculture, and plant collection and breeding programs were set up to provide continuous improvement to plant types and characteristics, particularly in the Mediterranean legumes (and to some extent tropical legumes) while our neighbours in New Zealand created a niche in the temperate legumes. At the same time commercial seed production capabilities have developed, which along with a cost of goods story have enabled Australasia to become a major supplier of legume genetics, via seed, to the world.

Despite the broad range of well-adapted species and varieties of legumes used in Australia, a series of droughts have multiplied the agents of pasture deterioration (including undergrazing or overgrazing at critical times, low fertility/pH, and soil structure issues such as compaction, weeds, plant diseases and insect pests). This pressure has resulted in the contribution of legumes to animal and cropping businesses being scrutinized.

Given the recent pressures, and the gravity of the contribution of legumes to Australia's productive capacity, it is important that the industry maintains a focused forum for discussion of specialised themes such as legumes, outside of the more broad agronomy conferences, where participants can share their knowledge and enthusiasm, present and publish their research, and perhaps more importantly to gain feedback from their peers and from end-users of legumes. Such an opportunity will support the maintenance of technical currency and competency in such specialised themes.

Reductions in public and levy funded pasture R&D, a dwindling supply of graduate and post graduate students and an aging (and declining) population of pasture scientists have all contributed to the isolation of pasture researchers. There are few opportunities for researchers to interact with others from similar or related fields in a formal environment and often funding and/or time constraints inhibit this activity at an informal level. At times there is also a tension between the need of researchers to publish and their need to complete projects and apply for the next source of funding that, increasingly, is resulting in less science being published.

Further, with the limited pools of funding being competitively sought after and the increasing prevalence of commercial priorities, there is little incentive for scientists to openly discuss their research and ideas for future research.

As a result pasture research is increasingly being conducted in isolated pockets with minimal exchange of ideas. This makes it difficult for the pasture industry to present to funding organisations a clear, well-grounded and broadly supported message about what the funding priorities should be.

To progress the pasture industry forward at a higher rate of improvement and in a more efficient manner there needs to be regular, structured, wide reaching reviews of the pasture industry. Too often a review of a particular part of the industry is only conducted in response to a strategic shift in the industry, occurrence of a market or research failure or a large project proposal being submitted. In many ways this is too late and a highly inefficient way of operating. If we are to keep developing and improving our pasture industries at a pace that is likely to match the demand for food and changing social and climatic conditions, then we need to conduct regular, critical reviews of its past, its current status, the successes and failures and where we need to go next.

The mission of the Australian Grasslands Association is therefore to provide a regular series of reviews that will enable the pasture industry to promptly recognise the issues it faces and respond to them through either changes in existing research

priorities or the creation of new priorities. To do this we intend to harness the collective power of the relevant scientific community in a forum that enables them to contribute directly to the review of the industry, the development of industry wide investment priorities and the setting of the research agenda for use by funding organisations.

Rob Salmon

PGG Wrightson Seeds (Australia), Truganina, Victoria.

Carol Harris

Primary Industries, Glen Innes, New South Wales.