C S I R O P U B L I S H I N G

Australian Journal of Experimental Agriculture

Volume 37, 1997
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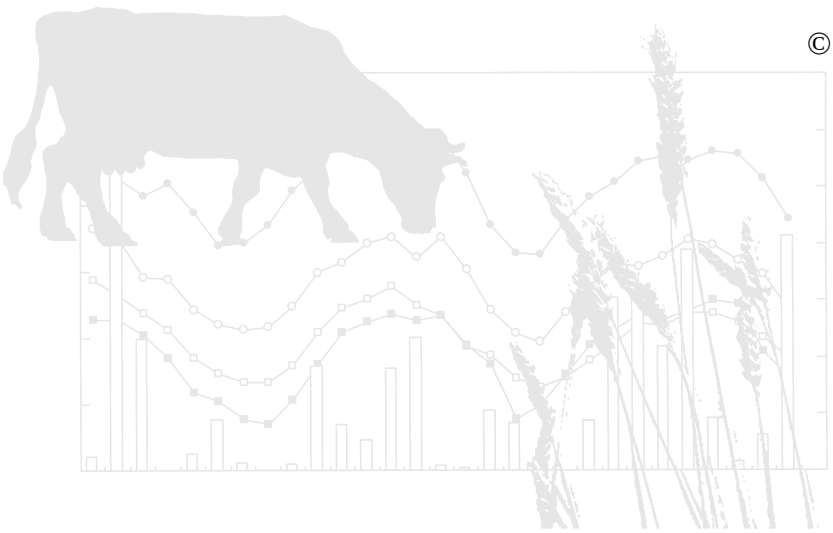

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Published by
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Standing Committee on Agriculture and Resource Management (SCARM)

Preface

The active marketing of reactive phosphate rocks (RPRs) as an alternative form of phosphatic fertiliser for permanent pastures began in southern Australia in 1990. Such products were of particular interest to pastoral producers because they were cheap and offered cost savings to an industry that was seeking ways to improve production efficiency. However, the dilemma for Australian scientists and producers was that there were limited research results that indicated how effective these fertilisers might be under Australian conditions, relative to traditional fertilisers such as single superphosphate. This led to an Australia-wide collaborative research program (the National Reactive Phosphate Rock Project) which commenced in July 1991 with the aim of evaluating RPRs for use in different pasture environments.

It was noted in the early 1980s that the New Zealanders were able to establish a network of field sites across their country to evaluate RPR fertilisers on the basis of decisions made by scientists in the Ministry of Agriculture and Fisheries, as it was then. The thinking was that such an undertaking could not happen in Australia: the barriers posed by state boundaries and the 'tyranny of distance' would prevent such a national undertaking. The National RPR Project demonstrated that this was not so. Given the desire for specific answers on RPR performance in different environments—by public and private sector scientists, industry representatives, and farmers in the high rainfall zones — then a truly national research initiative was possible. State boundaries and distance posed no barriers to the flow of funds from a centrally funded project, and the determined quest for an understanding of RPR performance.

The findings from the research carried out over 5 years in the National RPR Project, along with invited reviews, were presented at a conference entitled '**The Role of Reactive Phosphate Rock (RPR) Fertilisers in Australia**' held at La Trobe University, Melbourne, 1–2 October 1996. The conference papers are now presented in this single AJEA issue. The review papers set the scene of past work on phosphate rock research in Australia, and on the past and current work in New Zealand. The aims and the methods used in the Project, and the statistical procedures are outlined in 3 papers, and then a series of 7 papers describe different aspects of RPR performance, either in an 'as received' or partially acidulated form. A further 4 papers focus on the impact of RPR use in terms of its effect on soil pH, soil-extractable P, or on cadmium and fluorine concentrations in clover herbage. Guidelines for RPR use in Australia are then outlined in 3 papers which map the land suitable for RPR use, assess the economics of RPRs using pasture yield responses from the Project, and describe the expert system that has been developed to advise Australian farmers on the suitability of pasture environments for RPR use. The final paper is an independent review of the Project and its results.

History will judge the National RPR Project as one that successfully achieved research objectives, set the highest standards in its operation and administration, and one that developed a real spirit of commitment among the participants. There are a number of reasons for these successes. First and foremost was the unique sense of ownership felt by those involved; all participants had the opportunity to participate in the planning, executing and reporting phases of the Project. Second there was the close financial and logistical guidance offered by the co-ordinating manager for the Project, Paul Simpson, who made sure that all tasks were performed in accordance with the agreed plan. The state co-ordinators—Mike Gilbert (Queensland), Denys Garden (New South Wales) John Cayley (Victoria), Daryl Johnson (Tasmania), Dale Lewis (South Australia) and Mike Bolland (Western Australia)—provided valuable advice over the 5 years and assisted in the 3-way flow of information between the project co-ordinators at La Trobe University, the scientists who managed the experimental sites, and industry representatives. Finally there was the broad industry and funding body support that provided the resources to complete the many tasks required.

The efforts of many people, and the support from many organisations enabled this research to take place. The International Wool Secretariat, the Dairy Research and Development Corporation, and the Meat Research Corporation provided substantial funding support for 5 years and then additional support for the October Conference and for extending the findings of the Project. This collective and continuing support from the 3 research funding organisations that service Australian pasture-based industries is acknowledged. Significant support was also provided by individual fertiliser companies including Wesfarmers CSBP Ltd, Incitec Ltd, Pivot Agriculture Ltd, Quinphos Fertilisers (Aust.) Pty Ltd, EZ Fertilisers, AgFert Australia, and Jomoco Fertilizers Pty Ltd. The support from State Departments of Agriculture or Primary Industries, the CSIRO Division of Soils, and from La Trobe University and the Universities of Western Australia, Tasmania and New England, enabled their scientists and support staff to undertake the research work.

The Project would not have happened were it not for the many farmers across Australia who made land available for experimental sites for 5 years. Our thanks are extended to Peter English, 'Tutamonlin Park', Malanda, Qld; Alan Flegler, 'Marquette Farm', Tully, Qld; Mr Davids, 'Tedlands Station', Camilla, Qld; James Street, 'Blaxland', Kentucky, NSW; Bruce Page, 'Boolneringbar', Copmanhurst, NSW; Richard Smith, 'Rimbanda', Bendemeer, NSW; Gary and Kevin Pearsall, 'Toombah park', Yass, NSW; Jim Guilfoyle and Steve Webb, 'Kalbilli', via Tarago, NSW; Roger Jacques, Bengworden Road, Bairnsdale, Vic.; Andy Hermiston, 'The Farm', Upper Ryans Creek, Vic.; Bruce Cashmore, Curdievale, Vic.; Barry Raeder 'Ardwick', Apsley, Vic.; Steve Pilkington, 'Killara', Arthur River, Tas.; Gerald Fisher, 'Grove House', Jericho, Tas.; Bert Farquhar, 'Rushy Lagoon', Gladstone, Tas.; Don Moyle, 'The Basin', Willalooka, SA; John Lambert, Wattle Range, SA; Ian McLachlan, 'Nangwarry Station', Nangwarry, SA; Grant Hutchesson, Victor Harbor, SA; Barry Dunn, 'Comet Park', Parndana, SA; Mr Russell Walker, 'Fair Lawn', Busselton,

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WA; Mr Dick, Hancock, 'Boathaugh', Karridale, WA; and Mr Lloyd Burnside, Nornalup, WA.

We are also grateful for the field collaborators and assistants who carried out much of the field work. Included here are: Col Webb, Deryck Cooksley, Harry Bishop, Terry Hilder and John Bushell from Queensland; Michael Crestani, Sarah Williams, Ian McGowan, Kath O'Malley, Colin Shields, and Chris Chambers from NSW; Alan Cole, Greg Cook, Ken Draffer, Dion Borg, Fiona Cameron and Jane Court from Victoria; David Butler and Sharyn Tubb from Tasmania; Tony Pahl and Fiona Ottens from South Australia; and Martin Clarke and Frank Boetel from Western Australia.

Finally we acknowledge the support from Drs Chris Anderson and Lalina Muir from the AJEA editorial staff for their assistance in assembling the papers in this special issue.

Peter W. G. Sale
November 1997