

## Preface

The Cooperative Research Centre's Program provides the stability of funding for a 7 year term. This timeframe permits the thoroughness that is essential for excellence in science, the basis for quality education and scope for adoption of new technology. The Australian Sheep Industry CRC, working with CSIRO Publishing, has used the opportunity to thoroughly review the ways in which nutrition can influence parasite infection for 2 purposes. First, the review process provides the basis for designing the CRC's research in this area. Second, it provides an invaluable resource for building the CRC's education and extension resources.

The papers presented in this Special Edition of the *Australian Journal of Experimental Agriculture*, 'Nutrition-Parasite Interactions in Sheep', provide comprehensive evidence that nutritional management plays an important role in parasite control. The value of the information is made more important because of current changes in the sheep industry. First, there is a growing realisation that chemical anthelmintic treatment, on its own, may not provide a long-term strategy for managing parasites in grazing sheep. Second, sheep meat prices have increased considerably over the last 5–10 years, and more and more producers are recognising the importance of income from meat and the role that nutrition has in making this process more efficient. The third change is the development of technology that will enable the sheep producer to individually identify animals using electronic tags and use this technology to segment the flock according to genetic potential, management needs and specific nutritional requirements. Taken together, these 3 factors provide good reasons for more aggressive application of nutrition in sheep production systems and the technology to ensure that we are able to provide improved nutrition to those sheep likely to respond.

In the past, wool has been the major focus for most of Australia's sheep producers and investment in nutritional management has been difficult to justify on commercial grounds. Even the combination of parasite management and wool production has often not been enough to provide commercial justification for nutritional supplementation under grazing conditions. However, there is a growing awareness that the benefits from strategic nutrition can be far reaching and can extend to: parasite management, reproductive efficiency, growth for meat production, and can influence the amount and quality of wool produced. Once we focus on the full suite of potential benefits arising from strategic supplementation and the emerging problems associated with drench resistance, nutrition finds a new place in sheep management systems. The cost-effectiveness of nutrition is also dramatically improved by the emerging technology that will allow us to use electronic ear tags and automatic drafting for feeding just those animals in the flock that require the additional nutrients.

This Special Edition provides an outstanding summary of very valuable information on which to base further research and on which to develop practical feeding systems. The challenge ahead is to clearly define targets for supplementary feeding and document the multiple benefits that flow from achieving these targets. By providing unequivocal recommendations on key technical issues, producers and nutritionists will be able to work together to develop and implement cost effective strategies for sustainable systems of sheep production.

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