

AWET Post Doctoral Scholarship – 2010

Report of activities – Dr Nicholas Rolls

I was awarded the AWET Post Doctoral Scholarship for 2010. Throughout this time, I worked as a veterinary consultant servicing the wool industry through the Mackinnon Project at the University of Melbourne. The funding allowed substantial involvement in education of wool producers and veterinary undergraduates, underpinned by continued research and further training. The scholarship has effectively provided a platform for me to be able to continue to service the wool industry, enhancing my ability to provide high level advice to the wool industry now and in the future.

Interaction with the wool industry was carried out directly through on-farm consultancy and veterinary clinical work, providing advice on flock health and strategies to improve production and profitability from wool. Skills were further utilized in helping to train and develop the next generation of veterinarians equipped to service the grazing industries through undergraduate teaching involvement with the Faculty of Veterinary Science at the University of Melbourne. Involvement in further training programs with a range of young, capable and motivated producers and managers was also carried out, and this too will continue to have an impact in strengthening the wool industry over the years to come.

Teaching and extension

During 2010 I was involved in a range of teaching and extension work with sheep producers, veterinary students and other consultants – including one-on-one consultancy and advisory work with wool producers on-farm and through group training.

Group extension work included the formation and coordination of Lifetime Ewe Management (LTEM) groups in North East Victoria and in the Yarra Valley. Lifetime Ewe Management is a “hands-on” training program for wool and lamb producers, allowing participants to improve their understanding of the impacts of ewe nutrition on the performance of the ewe and her progeny. The program is based on the findings of the Lifetime Wool project, funded by AWI, where the key messages relate to improving wool production and wool quality, at the same time as reducing ewe mortality, increasing weaning rate and increasing whole-farm profitability.

I was also involved throughout the year in the teaching of undergraduate veterinary students in topics relating to the sheep/wool industry, as part of animal health and production subjects. This involved lecturing on determining the time of lambing and the key management constraints of wool enterprises, as well as a range of practical tuition in veterinary skills relevant to the wool industry, along with corresponding assessment. My educational role included practical classes at the veterinary school, inclusion in farm and client visits where possible and involvement in practical and educational classes at Dookie College. A further contribution was made to developing an online learning module relating to the wool industry on the University of Melbourne Learning Management System (LMS), with a view to helping students

understand some of the major issues confronting wool enterprises on-farm that ultimately affect wool quality at processing stage – and therefore economic value. This included issues such as lice, impact of nutrition on staple strength, weaner survival and wool production – all critically important issues for students to understand thoroughly before entering industry as service providers and advisers.

Consultancy

Throughout the year I had extensive involvement in flock health, consultancy and advisory work for wool producers. This included a range of veterinary clinical work including internal parasite control strategies, lice eradication, footrot control, brucellosis testing, ram testing, nutritional management, OJD advice, anthelmintic resistance testing and financial analysis – all with the view to optimising production and profitability of wool enterprises, and better positioning these enterprises for a strong future in the industry.

Consultancy work also provided an ongoing opportunity to work in with a range of other industry participants, including other consultants, DPI staff, animal health officers and laboratories – with contributions to disease surveillance and further developing my expertise applicable to the wool industry.

Publications

Regular contributions were made to the Mackinnon Project Newsletter relating to sheep health and production, for example:

- 1) *“Staple strength: minimal contribution from inherent strength of individual wool fibres” August 2010.*
- 2) *“Do your sums before shearing carryover lambs” December 2010*
- 3) *“Sheep-cattle interchange for worm control” May 2010*

The article on staple strength closely examined a recent study published in CSIRO Animal Production Science (Thompson and Hynd, 2009), keeping wool producers up to date with the latest research but also analysing the practical implications on-farm to minimise low tensile strength and its impact on the economic value of wool through poor processing performance.

The article on sheep-cattle interchange for worm control examined the greasy fleece weights of merino wethers under different management systems, applying research to practical outcomes on-farm to optimise wool production and profitability.

The article on shearing lambs examined the economics and decision making processes involved in the shearing of lambs, taking into account the cost of shearing, returns from wool and wool growth rates post-shearing to help producers make informed decisions on-farm.

Further contributions were made through editing the Mackinnon Project Newsletter, including editing the following articles on behalf of my colleagues:

- 1) *"Flystrike control options" November 2010*
- 2) *"Long term reduction of dag" September 2010*
- 3) *"Control of breech strike in unmulesed and clipped sheep" August 2010*
- 4) *"Sheep farm profitability" February 2010*

On an ongoing basis, monthly contributions were made to critical management reminders for sheep producers in south-eastern Australia for a range of key sheep/wool management decisions, published in the Mackinnon Project Newsletter and online where appropriate.

Contributions were also made to an important reference book on sheep farming in southern Australia published in 2010 by CSIRO Publishing, entitled "Sheep Farming for Meat & Wool", edited by Jane Court, John Webb Ware and Sue Hides.

Analysis

A range of analyses were made available to wool producers and carried out during the course of 2010, allowing examination of productivity and profitability of wool flocks – with the aim of generating information with application across the industry. Primarily, this included wool clip analysis with detailed examination of the classing, preparation, marketing and sale of individual wool clips; allowing for benchmarking and improvement in the preparation and sale performance of wool produced. Wool clip analyses will continue to be carried out during 2011 with a view towards a pooled analysis, allowing assessment of the value of micron price premiums in the current market and to make these findings more widely available to industry through publication if possible.

A range of other analyses were carried out using CSIRO programs such as Grazfeed™ and Grassgro®, allowing further experience to be gained with these modelling programs which will be beneficial for working with and servicing the wool industry over years to come. Economic analysis, where applicable, was also enhanced by a Graduate Certificate in Applied Finance, awarded in 2010.

Research

During the course of 2010, I was involved in a range of sheep and wool production research to underpin my consultancy, teaching and extension work – ensuring information and knowledge used in my educational roles was as up-to-date and relevant as possible.

Research included involvement in AWI trials examining alternatives for managing unmulesed merinos, comparing control programs for breech strike in mulesed and unmulesed sheep in south-eastern Australia. This trial represented properties from a range of important wool producing areas, including the Western District, East Gippsland and Central Victoria; and will provide important information for the wool industry as it continues to resolve the mulesing issue. The findings will help to

inform wool growers as to the best way forward for flystrike control in a range of environments, while also reassuring wool buyers and customers, and optimising animal welfare.

Other trial involvement included assessment of the production impact of incompletely effective anthelmintics – examining worm burdens, liveweight gain and wool production of merino weaners under a range of management conditions. This trial included Smart Grazing as a way of providing low-risk pastures to optimise weaner health, survival and production. I also carried out an on-farm trial examining the best time to shear lambs, taking account of the cost of shearing, flystrike control options, wool value and wool growth rate post-shearing to help producers make informed and economically rigorous decisions regarding the shearing of lambs.

Ongoing development

Ultimately, the AWET scholarship provided an opportunity to continue to work with leading wool producers and industry leaders. This allowed further experience to be gained across the industry and, in particular, with leading sheep veterinarians and advisers within the Mackinnon Project, including Dr John Larsen, Dr John Webb Ware and Dr Angus Campbell. I am sure this opportunity will provide a strong base from which to make a continued contribution to the wool industry over the years to come.

I thoroughly enjoyed my work with the wool industry in 2010, supported by an AWET scholarship, and am now continuing in a primary consultancy role with the Mackinnon Project in 2011. I thank the Trust for their support.

Dr Nicholas Rolls
15 February 2011