

SEARCH CRITERIA

Model	Model C
Industry	Wool and sheep
Focus/Level	industry
Purpose	Creating new knowledge/Improve productivity, Development of a management practice
Outcomes	Development of specific technologies
Special Interest Groups	NA
Design and Implementation	Designed and managed by researchers/ experts, designed and managed by community/farmers

1. PROJECT TITLE:

Lifetime Wool

2. FUNDERS:

Principal funders are:

Australian Wool Innovation Limited (AWI)

Department of Primary Industries Victoria (DPI Vic)

Department of Agriculture Western Australia (DAWA)

3. PROVIDERS:

Department of Primary Industries Victoria (DPI Vic)

Department of Agriculture Western Australia (DAWA)

Department of Primary Industries NSW (DPI NSW)

Department of Primary Industries, Water & Environment Tasmania (DPIWE)

South Australian Research and Development Institute (SARDI)

CSIRO

4. KEY CONTACTS:

Dr Andrew Thompson – Project Leader, DPI Vic

Dr Chris Oldham – Senior Scientist, DAWA

Lucinda Hogan – Program Manager, AWI

5. INDUSTRY/ISSUE/GEOGRAPHY:

Industry: Wool & Sheep Industry

Issue: Managing ewe nutrition to optimise the performance of the ewe and the lifetime production potential of the progeny will translate into economic gain.

Geography: High rainfall & sheep wheat zones of WA, SA, Vic, Tas & NSW

6. Project Context:

The profitable production of wool and sheep meat from pasture-based systems is dependent on high levels of pasture production being efficiently utilised by grazing sheep of high genetic merit. The proportion of breeding ewes in the Australian sheep flock is at an historical high (ABARE 2004), and implicit in the formulation of optimum feeding and management strategies for breeding ewes is the need for information on the full range of impacts from manipulating ewe nutrition. Understanding of the impacts of varying nutrition on ewe wool production and quality, and ewe reproduction and lamb birth weights and survival are entrenched as key principles in

ewe management practices. There has been a perception that nutrition during pregnancy has negligible effects on the offspring, largely due to the resilience of lamb birth weights to all but the most severe nutritional challenges.

However, strong evidence has emerged during the last decade that even subtle changes in nutrition during key periods of development *in utero* can have permanent impacts on the production potential and health of the progeny. The importance of these nutritionally mediated effects on early-life programming of lifetime performance has received little attention in the context of developing practical ewe feeding systems. Pre-experimental modelling suggested that financial large gains are possible from improved feeding of ewes, and that most benefit was due to the progeny producing more and finer wool during their lifetime.

The Lifetime Wool project commenced in 2001 and will run until 2008.

7. PROJECT NICHE (SPECIFIC OBJECTIVES):

To develop, demonstrate and communicate simple and practical guidelines for managing ewe nutrition that will enable woolgrowers to optimise lifetime production of wool per hectare from ewes and their progeny without compromising wool quality of the environment. Specific research questions included: (a) when are the critical times for ewe nutrition; (b) what are the critical targets for ewe nutrition; and (c) how to cost effectively achieve critical targets

8. PHILOSOPHY / APPROACH:

Lifetime Wool targets innovative and aspirant wool producers, as well as sheep industry consultants in the high rainfall and sheep wheat zones. The project is seeking a demonstrated willingness to change and practice change in the target groups.

The project was designed to work with and involve woolgrowers. Two plot-scale research sites (WA and Vic) and 15 paddock scale sites were established on commercial wool growing properties (5 – WA, 1 – SA, 1 – Tas, 4 - Vic, 4 – NSW). The plot scale sites were for investigation and generation of new information and the paddock scale sites were to validate these findings across a range of environments, genotypes, and production systems.

Three years into the project, a further 130 'demonstration sites' were established on commercial properties for 'road testing' the Lifetime Wool principles generated from the research sites. At the satellite sites, commercial woolgrowers are applying the principles to their flock (or part of) under the guidance of Lifetime Wool project staff.

A modelling and economics 'module' is overarching both the plot scale and paddock scale sites. This module is using whole farm systems modelling to develop optimum ewe liveweight or condition score profiles for different environments. As all farms and seasons are different, Decision Support Tools to predict the benefit:cost of ewe management options at different stages of the reproductive cycle; these can be used to adjust management in response to observed events or conditions as the season progresses.

Lifetime Wool will also be developing a range of supporting communication products and tools. These include:

- Consultants resource kit and Implementation training;
- Simplex and complex decision support tools e.g. pasture standards;
- Lifetime Wool handbook for woolgrowers;
- Competency based training course.

The approach to Lifetime Wool has:

- ensured researchers, modellers and wool growers worked co-operatively;
- ensured outcomes and outputs are practical, relevant and cost effective for commercial woolgrowers;
- engendered ownership, responsibility and empowerment in wool growers;
- brought about capacity building and confidence in woolgrowers.

9. RESOURCES, MANAGEMENT AND STAFFING STRUCTURES:

The Project is led by a Project Leader (Dr Andrew Thompson) based in Hamilton, Victoria. The project team comprises a leader from each state (total 5) and a number of staff members. Each state team has close linkages with commercial farmers, which act as project 'champions' and are involved in project communications and evaluation activities at various levels.

The project is also supported by a central database to facilitate data collection, overcome differences in data collection methods, and guide research staff in the type of data to be collected.

10. PROCESS/METHODS USED:

Collaborating wool producers that have sites on their properties were selected on the basis that they were recognised as leading producers by their peers. They were also interested in the research and willing to make a significant commitment to the project in terms of providing sheep and assisting with collecting data. The 'Demonstration sites' were open to all producers; more than 50% had been actively watching the project during the earlier phases and/or members of existing producer groups such as BESTWOOL.

More than 150 wool producers have been actively involved in the project, and this is expected to increase to 300 over the next 2-3 years. A core group of about 10 producers have been actively involved in extension activities, project reviews, evaluation and planning, and road-testing of tools and products.

11. IMPACTS TO DATE (AND EVALUATION APPROACHES USED):

The project has KASA and practice change targets of:

- a. 80% of consultants & extensionists aware of project outcomes and 25% indicating a willingness to change practice;
- b. 80% of innovators & aspirant wool producers aware of project outcomes and 25% indicating a willingness to change practice.

Current monitoring and feedback indicates that more than 25% of consultants that have a significant impact on the sheep industry have already changed practices. Furthermore, more than 40% of all sheep producers in the high rainfall and wheat sheep zones are aware of the project.

Monitoring also tells that since the program began there have been:

- 140 publications, nationwide rural press and extension materials produced;
- 200 extension activities including presentations, displays and invited presentations; and
- 9000 people participating (or engaging) with the project.

12. EFFECTIVENESS:

Anecdotal evidence also strongly suggests that the Lifetime Wool principles are being adopted by wool producers to increase the profitability of the businesses, and or achieve other goals such as reduce stress and or improve animal welfare. National phone survey confirmed that more than 42% of all sheep producers in Australia are aware of the 'Lifetime Wool' brand; awareness of Lifetime Wool has increased from 25% in early 2005. Knowledge of the impacts of ewe nutrition on lifetime performance of progeny, plus proportions of farmers practicing key skills in pasture and livestock assessment, pregnancy scanning and feed budgeting, far exceeded expectations. At this stage it is not possible to determine how much of these KASA and practice changes are due to Lifetime Wool versus other programs and information sources.

13. PROJECT DOCUMENTATION AVAILABLE:

See Project Proposals

14. ISSUES:

Several issues have arisen during the life of the project – in the main these have been effectively managed by the project team in close consultation with key stakeholders (largely AWI). Major issues have included differing levels of commitment and understanding among new project partners – i.e. 2003/4 when additional funding from AWI enabled the project to be expanded Nationally, plus excessive demand for communication of project outcomes to industry. An additional challenge is to retain key scientific staff over the life of such long-term projects.

15. COMMENTS/CONCLUSIONS:

The project is on track to exceed contracted obligations regarding communication and industry impact. However, major challenges ahead include completion of modelling activities and meeting scientific obligations, such as publication of research findings in refereed journals.

16. REVIEW METHODS:

Formal Monitoring & Evaluation will occur at the end of the project. Some M&E data was collected between 2001 – early 2004. Since then, a significant amount of resources have been directed at evaluation, and additional quantitative and qualitative data has been collected. An independent consultant has overseen the evaluation, plus there have been numerous reviews by key stakeholders (AWI review 2003, 2004 and 2006) and independent consultants (Hassall & Associates 2004).