

annual report 2004/05



making innovation work

• australian wool  
**innovation**  
• limited

## contents

### **upfront**

about awi	01
awi board of directors	02
chairman's report	04
ceo's report	06
2004/05 report of progress against operational plan	08

### **report of program operations**

wool production	23
textile technology	31
trade development	37
corporate affairs	43

# research development innovation



### **good business 47**

managing our r&d strategically	48
corporate review	51

### **financial statements 57**

directors' report	58
financial report	63
directors' declaration	83
independent audit report to members	84

### **appendixes 85**

appendix a – project list	86
appendix b – intellectual property table	100
appendix c – publications list	104
subject index	109

Australian Wool Innovation Limited gratefully acknowledges the funds provided by the Australian Government to support the research, development and innovation detailed in this publication.

Australian Wool Innovation Limited  
ABN 12 095 165 558

# About AWI

## Company overview

Australian Wool Innovation Limited (AWI) is a research and development (R&D) company owned by, and working on behalf of, Australian woolgrowers.

AWI invests funds in wool research, development and innovation activities aimed at increasing the long-term profitability, productivity and sustainability of Australian woolgrowers. AWI invests in the areas of wool production, textiles, trade development and industry affairs.

AWI brings together world leading research organisations and Australian and global commercial companies to collaborate on projects that aim to bring products to market.

## AWI mission

AWI's mission is to drive research, development and innovation that will increase the long-term profitability of Australian woolgrowers.

This means collaborating with organisations and companies to create new on-farm solutions for woolgrowers to use. In the textiles/trade area, this means developing new wool products and marketing their benefits to global designers, manufacturers and retailers to get wool innovations to the consumer.

AWI investments are funded through an R&D levy paid by woolgrowers (currently two per cent of the sale price received for their shorn greasy wool) and a contribution from the Australian Government, capped at 0.5 per cent of the value of total greasy wool sales. Woolgrowers vote every three years on the percentage of wool proceeds they would like to invest in wool R&D. The next WoolPoll vote is in 2006.

AWI has a total of 74 staff at offices in Sydney (head office), Melbourne, Geelong, Gosford and overseas in Shanghai, Beijing and New York. AWI also owns and runs a 3,126 hectare field station near Deniliquin, NSW.

## Where AWI invests Australian woolgrower funds

AWI invests in four key areas:

### Wool Production

AWI works with woolgrowers to help them compete profitably in the international markets for wool and sheep meat through the adoption of on-farm innovations. AWI aims to help woolgrowers reduce the cost of production on their farms through innovation in areas such as pastures and grazing, sheep health, genetic technologies to breed more productive sheep, and shearing.

## Textile Technology

AWI works in the science arena with organisations and companies to develop new and improved wool products for the fashion apparel, sports, activewear, protective clothing, medical and filtration markets. AWI also works to develop new fundamental knowledge about the properties of wool fibre, and develop processes that may lead to new Merino fibre yarns and fabrics.

## Trade Development

AWI provides a vital link between the research and development chain and the market by forming business to business relationships to commercialise wool innovations and build the demand for Australian wool. AWI also plays a key role in working with industry and government to increase market access into Australian wool/textile importing countries, and providing shareholders and industry with the latest market information.

## Corporate Affairs

Through the use of publications such as *Beyond the Bale*, the AWI website, events and forums, and the rural and metropolitan media, AWI seeks to inform woolgrowers, the government, and users of Australian wool (such as textile manufacturers and retailers) about the value of the Australian wool industry. AWI also manages industry wide activities such as training, issues management and public relations.

# AWI Board of Directors

The directors of Australian Wool Innovation Limited during 2004/05, their qualifications, experience and special responsibilities as at 30 June 2005 are listed below.

All the directors were in office during the whole of the financial year, except Mr Boyd who was not re-elected to the Board at the AGM held on 19 November 2004 and Mr Merriman who was elected a director of the Board on the same day.



**I M McLachlan AO**

Mr McLachlan is a woolgrower with pastoral interests in South Australia and New South Wales. Mr McLachlan was the Chairman of the Australian Wool Industry Future Directions Task Force in 1999. He was a Federal Member of Parliament from 1990 to 1998 and was the Minister of Defence and a Cabinet Member of the Federal Coalition Government from 1996 to 1998. Previously he was the President of the National Farmers Federation from 1984 to 1988. He is currently the President of the South Australian Cricket Association and a Board Member of Cricket Australia.

**Special responsibilities**

Chairman of the Board, AWI/AWS Integration Committee Chairman, Remuneration & Appointments Committee member, Intellectual Property & Commercialisation Committee member.



**B P van Rooyen**

Mr van Rooyen is currently the Chief Executive Officer of Australian Country Spinners Pty Ltd and a Director of the Australian Wool Testing Authority Ltd, New Zealand Wool Testing Authority Ltd and Power Farming New Zealand Ltd. Mr van Rooyen is a former Director of Norwellan Textiles Ltd, Woolstock Australia Ltd and Bruck Textiles Pty Ltd. He is a past President of the Australian Wool Processors Council and a past member of the CSIRO Textiles, Clothing and Footwear Sector Advisory Committee.

**Special responsibilities**

Deputy Chair of the Board, Finance & Audit Committee Chairman, Remuneration & Appointments Committee Chairman, AWI/AWS Integration Committee member.



**C J Abell** Dipl Mech Eng, BE (Hons), Ph D

Dr Abell is a South Australian woolgrower and is currently a non-executive Director of Saab Systems Pty Ltd and Pacific Marine Batteries Pty Ltd. Dr Abell is a former Director of Vision Systems Ltd (1986 to 2001) and a former Chairman of LADS Corporation Ltd (1992 to 2001). He is also a former Director of Woolstock Australia Ltd (1999 to 2002).

**Special responsibilities**

Falkiner Memorial Field Station Committee Chairman, Finance & Audit Committee member, Intellectual Property & Commercialisation Committee member, AWI/AWS Integration Committee member.



**K J Bell** B V Sc (Hons), Ph D, AAAC (WA)

Dr Bell has been a self-employed consultant with sheep growers in south-western Australia since 1983. Prior to this, Dr Bell spent five years completing postgraduate research fieldwork and study involving sheep enterprises and has five years experience in international development projects. He was a sheep-cereal zone consultant representative on the zone farmer advisory committees of the former Australian Wool Research and Promotion Organisation (AWRAP). Dr Bell has recently been appointed Professor of Animal Production Systems at Murdoch University, overseeing the progression of a new degree program in Animal Science.

**Special responsibilities**

Falkiner Memorial Field Station Committee member



### J D O Boyd

Mr Boyd is the Chairman and Chief Executive Officer of Clyde Agriculture, which is a major cotton, wool, mutton, lamb, wheat and beef producer. Mr Boyd is a Director of John Swire & Sons Pty Ltd and Frigmobile Pty Ltd. He is the former General Manager – Rural of Dalgety Australia Ltd, now Landmark. He is also a former Board Member of Wool International and a former Deputy Chairman of the peak cotton grower body, Cotton Australia. Mr Boyd has served on the boards of the Australian Wool Exchange and Dekalb Shand Seed Company Pty Ltd. He is a past member of the CSIRO Textiles, Clothing and Footwear Sector Advisory Committee. Mr Boyd is currently a Trustee of the McGarvie Smith Institute, which is engaged in agricultural and veterinary research.

Mr Boyd was not re-elected to the Board at the AGM held on 19 November 2004.



### W B Merriman

Mr Merriman is Managing Director of the Merryville Stud. He oversees extensive commercial pastoral interests giving him broad farming and grazing experience. Mr Merriman has served on several industry boards, including National Woolgrower Forum and Major Woolgrowers Group, and is past-president of both NSW and Australian Stud Merino associations.

Mr Merriman was elected a director of the Board at the AGM held on 19 November 2004.

#### Special responsibilities

Remuneration & Appointments Committee member.



### H P Nivison B V Sc

Mr Nivison is currently the joint Managing Director of Mirani Pty Ltd, a fine wool stud and commercial wool production business running some 25,000 sheep and 1,500 cattle in northern NSW. Mr Nivison is also a Director of Australasian Rural Investments Pty Ltd, a company focused on sourcing and managing high quality rural businesses for non-traditional investors. Mr Nivison is a member of the Executive of Merino Benchmark, a group of Merino Breeders committed to maximising genetic gain through quality assured across flock evaluation. Mr Nivison is Chair of UNE Rural Properties and a graduate of the Australian Rural Leadership Program. Mr Nivison is also a registered veterinary surgeon.

#### Special responsibilities

Intellectual Property & Commercialisation Committee Chairman, Finance & Audit Committee member, Falkiner Memorial Field Station Committee member.



### P S Sykes

Mr Sykes is currently the Managing Director of Woolaby Australia Investments Pty Ltd, a business focusing on research, product development, marketing and retail within the wool industry. He is also a Director of Sykes Holdings Pty Ltd, an AWI shareholder running 7,000 Merino sheep and 700 beef cattle in southern NSW. Mr Sykes has nine years' experience in financial markets with Westpac Banking Corporation in money market trading, risk management and distribution.

#### Special responsibilities

Intellectual Property & Commercialisation Committee member, AWI/AWS Integration Committee member.

#### Company secretaries

Leslie Mark Targ and Christopher Maitland Chapman Dip Law, MBA, FAICD, FCIS

# Chairman's report



In the past year Australian Wool Innovation has worked hard to deliver products through research and innovation that will help improve the businesses of Australian woolgrowers.

Significant advances have been made in new shearing technology, mulesing alternatives, genetics, and most importantly, partnerships with designers, retailers and manufacturers around the globe to build demand for Australian Merino wool.

Research by its very nature can be slow but the Directors of AWI have been, and continue to be, committed to doing whatever they can to speed up the process and bring the results to market more quickly.

Now more than ever, innovation is essential to our survival as individual businesses and as an industry. Quite simply, we innovate or we perish, both on and off the farm.

Wool prices for the past couple of years have been disappointing to many shareholders. Neither AWI nor growers can control wool prices to any material degree. The single most dominant influence on our wool price is external – the Australian US Dollar exchange rate. A steady recovery in the US economy would be of enormous help to all of us.

We can and must address the things we can influence – that is building on-farm productivity and dealing with issues such as shearing, mulesing and parasites, to name but a few. Equally, the business of building apparel industry alliances has evolved significantly in the past 12 months. AWI now focuses sharply on building alliances with designers, retailers, manufacturers and garment makers around the world – the people who make the decisions about the fibre used in

apparel. We now have developed successful alliances in China, the US and our next step is into Europe.

We are also working with partners on point-of-sale marketing that highlights the performance attributes customers are looking for, such as softness and easy care.

This is the best way to build demand for Australian Merino wool. There is obvious potential to increase sales through this approach, with some targeted marketing at point-of-sale in conjunction with retailers.

In April this year, the AWI Board took on the International Wool Textile Organisation's (IWTO) idea of co-funding with the rest of industry a test marketing program focused on high quality apparel in key markets. AWI Directors quickly decided to offer US\$5 million to this program, on condition that it be matched by the rest of industry.

In November last year, AWI initiated discussions with Australian Wool Services, owners of The Woolmark Company, on some form of integration between the two companies.

The process has proved complex and was delayed for some time while Woolmark Directors considered alternative options. These discussions are continuing.

This year has also seen AWI working hard with other industry representatives to defend Australian wool and sheep producers, and the industry, against the campaign by extreme animal rights groups to ban mulesing and live sheep exports.

Sadly this has also been the excuse for some of the most divisive actions by minority sections of the industry that I have ever seen in my time in the wool industry.

The overwhelming majority of the Australian sheep and livestock industries have combined with the National Farmers' Federation and the Australian Government to unite as one voice on this issue – as represented by the Australian Sheep and Wool Industry Taskforce.

Together we have supported over 300 retailers globally and undertaken an international trade advertising campaign to combat the threats, highlighting the Australian sheep industry's high animal welfare standards and promote the quality of Australian Merino wool.

As well, AWI is doing everything it can to deliver mulesing alternatives as fast as possible.

We also launched legal action against People for the Ethical Treatment of Animals (PETA) and its Australian affiliates to stop them intimidating retailers and propagating misinformation. The Australian Federal Court has determined that AWI has a prima facie case against PETA for breaches of the *Trade Practices Act* and the common law.

These animal activists are not winning, and those who suggest we should negotiate with them or attempt to do so are misguided at best. AWI will expend the necessary resources to ensure the industry is properly defended.

There is no point negotiating with a group whose whole future revolves around you not having one.

Ironically, the campaign against us by PETA has opened the doors of senior retail executives around the world to AWI. As a result many are now interested in new Merino wool products and innovations.

Thus, we do have a strong and exciting future.

We must remember we are in the sheep industry, with multiple products, one of which – that is, lamb – is increasing in price in real terms. In Australia, the Merino sheep is the ultimate basis of the lamb industry, so whilst wool is our common activity, it should not be forgotten the sheep itself presents other rewards.

The opportunities before us in increasing on-farm productivity and in building demand for Merino wool are many.

However we have to seize and vigorously pursue these opportunities. No business can afford to stand still or it will be overtaken. We have to innovate or perish.

Innovation is AWI's business and ongoing investment in it is fundamental to the future of the Australian wool industry.



**Ian McLachlan AO**  
**Chairman**  
**Australian Wool Innovation Limited**

16 September 2005

# CEO's report



This year was one in which AWI delivered significant benefits to Australian woolgrowers. Our report of progress against the operational plan for the year, on pages 8 to 22 of this report, shows that we fully achieved around 60 per cent of our targets and partly achieved a further 20 per cent.

## Wool production

Some of the products delivered during the year by the Wool Production portfolio were the worm management package *WormBoss*, two new pasture legume cultivars for use in alkaline soils, a new sub clover for use in neutral to acid soils, and the feral dog bait attractant *FeralMone*. New woolgrower extension networks were established in New South Wales (*Wool4Wealth*), Western Australia (*The Sheep's Back*) and Queensland (*Leading Sheep*). We now have networks in each state to assist in delivery of R&D outcomes to more than 3,000 woolgrowers. This is in addition to the 7,600 woolgrowers

who have benefited from the *Land, Water & Wool* natural resources management program. Also, the shearer and wool handler training program delivered in-shed training to 1,750 shearers and 778 wool handlers in five states.

Next year we are on schedule to deliver new approaches to mulesing, upright posture shearing platforms, ewe nutrition guidelines for optimising the lifetime wool of Merinos, a lice detection test and Sheep Genetics Australia – the industry owned sheep genetics database.

## Textile technology

In the apparel area, major outcomes during the year were the development and commercial uptake of five new trans-seasonal wool and wool blend fabrics, Merino Super Soft knitwear and featherweight wool fabrics.

These fabrics were developed as part of our new Textile Product Development Themes or marketing platforms, which are used to guide fabric development into areas of highest market priority. Working with retailers, designers and garment makers, these themes have been developed to enhance the opportunities for wool in each consumer market sector. It is pleasing to have some very successful designers working with us to boost the use of wool in apparel.

In textile technology there have been successes in the development of dark fibre testing, on-farm fibre measurement quality assurance, wool bandages, wool filters, low temperature scouring, techniques for improved wool whitening, and the

transfer of total easy care technology to woven garments.

Our [www.woolontheweb.com.au](http://www.woolontheweb.com.au) technical website was also successfully established towards the end of March and had 7,975 downloads by the end of June.

In the coming year we will be releasing new natural stretch/easy care light fabric, more innovations for Merino Super Soft knitwear, total easy care apparel into key northern hemisphere markets, and new innovative apparel ranges in conjunction with designers world-wide.

To ensure our new clothing products reach the retail shelf, we are working closer with manufacturers and retailers to provide marketing support in the form of consumer research, point-of-sale material, technical information about the features of wool and background stories. Our efforts in this area will grow as more products come on stream.

## Trade development

Over the past year our Trade Development department has refined our approach to establishing business to business relationships with major wool users. These commercial alliances ensure we are customer focused and ensure the fastest, most effective route to market for research outcomes. Currently we have development and commercialisation activities underway with over 50 companies throughout the world.

As the major buyer of Australian wool, China receives special attention. During the year we moved our principal operations in China

to the fashion hub of Shanghai and employed additional account managers to work with commercial partners. Examples include our work with menswear manufacturer Heilan to produce machine washable wool blend suits for the Chinese domestic market. Nanshan, a major worsted fabric maker, is also commercialising a new lightweight fabric for use in shirts, trousers and jackets.

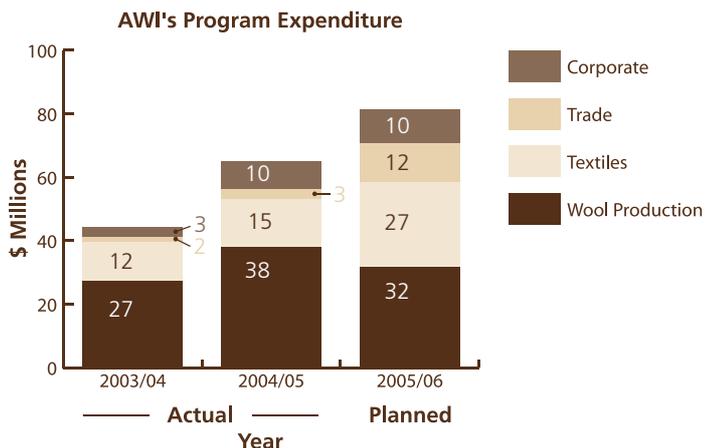
We have also been working in conjunction with the Australian Government to ensure the wool industry's interests were supported during free trade agreement negotiations between Australia and China.

In the USA an office has been established in New York to directly engage with domestic and international brand partners and introduce them to the latest wool innovations.

Our work with companies in India is also increasing as a result of the formation of a joint industry advisory group. Projects involving total easy care technology for use in trousers, knitwear and shawls are underway.

#### Corporate affairs

In conjunction with the Australian Wool Industry Taskforce, AWI staff have worked all year to fend off attacks on wool retailers by extremist animal welfare groups. Our combined strategies of intensive public relations, legal defence and advertising have been effective but the need to invest this effort is regrettable. Far more productive is the exciting research into mulesing alternatives which are progressing extremely well.



We are always looking for opportunities to communicate the results of R&D to our shareholders. This year we conducted seven very successful woolgrower forums, expanded our website and issued 24 new or updated fact sheets about key program areas.

#### Finances and staff

Total revenue for the year was \$65 million, compared to \$63 million last year. This was comprised of \$43 million levies, \$13 million government contributions, \$7 million investment income and \$2 million of other income.

The year's expenditure was \$79 million, composed of \$38 million on-farm, \$18 million for trade and textiles, \$10 million in corporate affairs and \$13 million for support services.

We finished the year with funds under investment and cash in hand of \$101 million and forward liabilities committed and planned for research contracts of \$78 million. The breakdown of next year's expenditure by program is shown in the chart above.

During the year we employed an additional thirteen staff bringing the total on 30 June 2005 to 74. These staff contributed to all areas of the company in Australia and overseas.

AWI primarily achieves outcomes for the wool industry by working in cooperation with a wide range of stakeholders. Efforts made throughout the year by woolgrower organisations, growers, scientists, governments and a wide range of people connected with the textile industry have been extremely important and are greatly appreciated.

Overall, we are in good shape for the coming year to deliver new products for woolgrowers and textile innovations to help build the demand for Australia's wool.

**Len Stephens**  
**Chief Executive Officer**  
**Australian Wool Innovation Limited**

16 September 2005

# 2004/05 report of progress against operational plan

The information below summarises the results of AWI activities undertaken in 2004/05 against operating targets.

Wool Production	
Profitable Grazing For Wool Sheep	
2004/05 Operating Plan target	Performance against target
<b>Plant breeding</b>	
Commercial release of six cultivars from the National Annual Pasture Legume Improvement Program (NAPLIP): Coolamon ( <i>Trifolium subterraneum</i> ), Urana ( <i>Trifolium subterraneum</i> ), Napier ( <i>Trifolium yannanicum</i> ), Cavalier ( <i>Medicago polymorpha</i> ), Scimitar ( <i>Medicago polymorpha</i> ), Erica French Serradella ( <i>Ornithopus sativus</i> ), Margurita French Serradella ( <i>Ornithopus sativus</i> ).	All six cultivars are now commercially available to woolgrowers. In addition to this a further four cultivars have been released to commercial seed companies for seed buildup in 2005. It is expected that Moonbi and Wilpena ( <i>Hedysarum coronarium</i> ), Mintaro ( <i>Trifolium subterraneum</i> ) and SARDI Persian ( <i>Trifolium resupinatum</i> ) will be widely available to woolgrowers in 2006.
NAPLIP to release two 'Ute Guides' containing agronomic and management information for use of new cultivars.	Southern zone Ute Guide published. Northern Zone Ute Guide still in preparation.
NAPLIP to establish 24 cultivar demonstration sites across Australia and conduct field days to provide producers with information on the best cultivars for their business.	Demonstration sites in place and being utilised. All other NAPLIP projects completed June 2005.
<b>Acid soils</b>	
Release of information on the economic impact of lime application for wool production in arable and non-arable environments.	In October 2004, information sheets were published by NSW DPI and are currently available through their website and field days.
Development of extension products for woolgrowers regarding ameliorating soil acidity.	Product development for Grain & Graze still under planning and negotiation.
<b>Soil biology</b>	
Demonstrate the relationship between soil biological status and pasture productivity through key projects including: plant rhizosphere studies, development of DNA markers for significant plant pathogens, quorum sensing signals between bacteria and plants, and biocide trials.	All key projects have been contracted and key staff and students appointed. The biocide trials to determine the productivity effects of removing pasture pathogens have been completed.
<b>Pasture management and utilisation</b>	
Through investment in Grain & Graze contribute to developing mixed farming systems with increased livestock productivity.	Eight regional Grain & Graze projects are in place, a ninth region has been approved. Forty case studies of mixed farming systems have been completed.
Weed bio control agents delivered throughout NSW, Victoria, SA and WA, with ongoing monitoring and evaluation of impact of agents on pasture productivity.	381 releases of bio control agents for Paterson's Curse, thistles, horehound and blue heliotrope were made around Australia.
Publication of management guidelines for bio control agents.	CSIRO, with input from the State agencies has published a series of pamphlets on managing the bio control agents for Paterson's Curse and thistles. These are available on the CSIRO website.
TIMERITE® decision support system for redlegged earth mite control to be launched in July 2004 for eastern Australia.	TIMERITE® was released in July 2004. Since then 3,886 optimum spray dates have been provided to wool producers. 2,746 have been generated by the TIMERITE® website, and 1,140 by the AWI helpline.
Lifetime Wool: release of best bet ewe nutrition guidelines for optimising progeny lifetime wool production by autumn 2005.	Release delayed due to difficulties with economic modelling and additional data analysis requirements. On track for delivery in spring 2005.
Commercial release of seven day forecast of Pasture Growth Rate through Fairport Technologies Ltd.	Available through subscription to the web based service Pasture Watch. The information is validated for Western Australia and unvalidated for eastern Australia.

Continued investment in Pasture Growth Rate projects to develop a longer term forecast.

Release of three drought management products: 'Which sheep do I keep?', 'Management of price and fodder supply risk during drought', and 'Managing sheep in droughtlots'.

Provision of ten Stockplan training days for drought affected wool producers.

Development of a Weeds Strategy in conjunction with MLA by December 2004.

Consultation with woolgrowers has indicated that validation of pasture growth rate information (real time and seven day forecast) for eastern Australia is a higher priority than development of a longer term forecast. The project is being revised.

Publications released in July 2004 – available on the AWI website or from the AWI helpline on 1800 070 099.

Fourteen training days well received by 160 producers.

Strategy being finalised. MLA has made some initial investments in new weed projects with AWI currently assessing new projects in bio control, serrated tussock and lippia.

### Demonstration of pasture systems

Scope a network of commercially relevant pasture demonstration sites to showcase new technology, benchmark productivity and provide a focus for extension activities – maximising engagement with existing AWI producer groups and the Grain & Graze Program.

Planning is well advanced. Two scoping workshops held with producers in Benalla (VIC) and Katanning (WA). Discussions are occurring with MLA regarding potential collaboration.

### Pastoral zone

Complete AWI's strategy for investment in pastoral zone wool production, and ensure the support of pastoral zone wool producers.

Ongoing review of current information held by AWI on producer needs, plus ongoing consultation with pastoralists in Bestprac groups and research and extension providers.

### Falkiner Memorial Field Station

Develop FMFS as a research station offering facilities for wool industry research and development

Irrigation development and fencing and stock water systems completed. Central Test Sire Evaluation and Sheep Genomics Program underway and on schedule. FMFS has installed RFID equipment which will be made available for woolgrower field days and information days. Wetland and grassland rehabilitation trials established on the property.

### Natural Resource Management

#### 2004/05 Operating Plan target

Encourage more people to join Sustainable Grazing of Saline Lands groups that are forming in NSW, VIC, WA and SA.

Provide information products and field days to demonstrate improved management of riparian land and native vegetation.

Implementation of Pastoral sub-program projects which will engage with individuals and *Bestprac* groups.

#### Performance against target

SGSL has a network of 120 producer demonstration sites nationally. 1,200 producers are regularly involved in the activities of these local projects. An additional 300 producers not involved with the producer network have participated in a series of regional forums throughout the year.

NSW Northern Tablelands Native Vegetation project held a successful field day launching three native vegetation and biodiversity case studies and have had three other well attended field days at participating farms throughout the year. Native grasslands management fact sheets have been produced and released for Victoria. A Vegetation Insights publication is in the final stages of development. The Victorian project has demonstrated that subdivision fencing and rotational grazing of hill country result in increased stocking rates and groundcover and retention of native perennials. The Rivers site at Yass has collected valuable information on the loss of soil and nutrients from eroded gullies and the impact on water quality. Following remediation of the site changes in soil and nutrient loss and water quality will be monitored.

The Pastoral sub-program has been implemented in WA, SA, NSW and QLD with five projects. Four of the projects are focused assessments of carrying capacity in a given season, leading to more informed stocking rate decisions and sustainable grazing practices. The fifth project is investigating the potential for remote sensing to provide woolgrowers in SA with better information on ground cover and resource condition.

Tailoring and delivery of products from each of the LWW sub-programs through the Grain & Graze Program.

Development of a network of woolgrower leaders and advocates in productive natural resource management.

Production of Rivers Guides for the sheep/wheat and high rainfall zones.

Production of a rapid assessment tool for riparian land management on wool producing properties.

Production of a range of new tools for improved management of stocking rates in the pastoral zone.

Delivery of findings from the Future Woolscapes project.

Production of three LWW Insight publications relating to key issues in production and management of native vegetation.

A climate forecasting tool for pastoral zone producers to be piloted and made widely available.

Phase 1 findings from Sustainable Grazing of Saline Lands grower networks to be delivered.

Local events and field days to be held in wool production areas, exploring issues relating to riparian, native vegetation, biodiversity, salinity and water quality management.

In consultation with the SWAG, finalise AWI's strategy in the following areas: continuation of R&D activities undertaken in LWW, climate forecasting, climate change, demonstrating the wool industry's environmental credentials, and strengthening the linkages between AWI's production and NRM portfolios.

LWW products, such as the Rivers Guides, native grasslands management guidelines and findings from SGSL have been identified for delivery to the nine Grain & Graze regional projects and through the national extension effort of Grain & Graze.

Woolgrowers are encouraged to speak publicly about their experiences with NRM at field days and to the media. Tom Dunbabin, Chairman of the Sustainable Wool Advisory Group was awarded the McKell Medal in 2005 recognising his contribution to natural resource management. The members of the four state committees of SGSL are actively engaged in leadership development opportunities.

Comprehensive high-rainfall zone and sheep-wheat zone River Guides are on track to be delivered by October 2005 in hard copy and electronic form.

A Rapid Assessment of Riparian Condition (RARC) tool is being incorporated into the River Guides and the River Guide summaries.

Five projects focused on improving stocking rate decisions in dry seasons and to ensure sustainable rangeland management have commenced. At their completion in June 2006 the projects will have assisted pastoralists in each state to develop new skills and tools to assess rangeland condition and optimal stocking rates.

The project has been completed and the AWI Board and management have received presentations on the project, scenarios and key outcomes. A summary report will be released to woolgrower and other industry groups in spring 2005.

One native vegetation Insights publication is on track to be delivered in November 2005.

Research has been completed and a series of tools and extension information are being developed.

Information from all sites involved in the SGSL Sub Program will be summarised under five key theme projects and delivered to woolgrowers in 2005/06 and 2006/07. The five key themes are:

- Salt and water movement from saltland;
- Siting, establishment and performance of saltland species;
- Performance and utilisation of saltland pastures;
- Biodiversity impacts from saltland pastures; and
- Economics of saltland pastures.

SGSL has had nine large field days throughout the year, four in WA, four in NSW and one in SA. The Rivers sub-program has run a total of ten field days and workshops in Tasmania, Burra, SA and Yass, NSW. The Native Vegetation and Biodiversity sub-program has conducted 22 field days, workshops and industry events. The Climate sub-program has conducted nine workshops throughout the pastoral zone in the previous 12 months.

Strategy to be submitted to AWI Board by September 2005.

## Animal Health

### 2004/05 Operating Plan target

### Performance against target

#### Make better use of existing technologies

Occupational health and safety data on treatments using diazinon submitted to the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Trial completed in August 2004 and the APVMA is using the report in its diazinon review, which is not yet complete.

Complete trials to develop better replenishment regimes for diazinon, making the product a more effective dip.

Twenty three demonstration farms complete the first full year of their integrated parasite management program, and each hosts at least one field day, with more than 700 producers expected to attend.

#### Develop new products and practices

A collaborative development agreement for a new anthelmintic is finalised with a commercial partner by December 2004.

Artificially mass-produce a particular blowfly protein and start to use it to screen potential new compounds for blowfly control.

Test strains of *Bacillus thuringiensis*, a natural bacterium, against blowflies on sheep to establish proof of concept.

Identify suitable strains of insect-destroying nematodes (worms), develop ways of applying them, and commence testing on lice and flies on sheep.

Develop tools and commence work on the identification of 'target' genes in blowflies.

Identify fungi capable of destroying lice and flies.

Develop tools and commence 'knocking out' single genes in lice to identify targets for new treatments.

#### Develop new diagnostic tests

Secure the commitment of State laboratories to footrot test development, and make significant progress in establishing that the test works on strains of footrot from around Australia.

Identify new manufacturing partner for dipstick version of lice detection test, establish the sensitivity of the laboratory test through controlled trials, and complete most field validation of the lab test on commercial properties, with duplicate samples stored for testing with the dipstick as it becomes available.

#### Replace or improve undesirable practices

Progress to be made in developing a commercial alternative to mulesing for use by sheep producers.

Progress to be made on a new dog bait to replace 1080.

Deliver an effective lure for dogs to the market.

Shower and plunge dipping work completed.

Number of farms reduced to 22 after one withdrew but the target of 700 was met. Clear messages on best practice parasite control identified and promoted. Responses to comprehensive survey of parasite management practices received and partly analysed. WormBoss information resource, successfully launched in March 2005.

This initiative was abandoned after commercial assessment.

Project commenced in May 2005. Scientists and equipment are in place and preparation of materials has started.

Project was abandoned. There were significant delays in contracting and AWI priorities changed during the period, with more emphasis placed on mulesing alternatives.

Proof of concept that the nematodes can destroy lice and maggots established and workable formulation for application to wool developed.

Project commenced in November 2004. Staff appointed and tools developed.

Test systems established, background infection levels on lice and flies quantified, 27 strains of spores produced, and screening commenced.

This project was taken up by a multinational animal health company and therefore no longer requires AWI funds.

R&D project completed in March 2005 and a commercialisation phase commenced. Agreement has been secured to pilot the test at Orange and Albany labs during 2005. The drought made it difficult to source samples but almost 800 have been obtained and tested.

Field evaluation of laboratory test on commercial properties and controlled sensitivity test completed, with the test performing well. One of the project partners has made significant progress towards a 'dipstick' test and negotiations are underway with two other potential developers.

Collagenase treatment parameters finalised (depth, spacing etc), effects on skin described, several sources of collagenase tested and suppliers identified. Formulation work commenced. Feasibility of two alternatives to collagenase established and further testing planned. Two proof-of-concept injection devices successfully developed and two more in reserve. Work commenced on surgical aspects of mulesing to simplify application. Planning well advanced for field trials in spring 2005.

Initial assessment of non-target species susceptibility conducted, but decision taken to undertake much more comprehensive trial, which is in progress. Work on environmental fate of toxin commenced. Dose/responses of dogs and foxes under experimental conditions completed and lethal trials using formulated toxin completed for dogs.

FeralMone (pheromone attractant) launched in April 2005. Work continuing on a device for mounting the FeralMone can on the outside of aircraft and on lures for use with mechanical ejectors (on schedule).

### Contribute to crisis planning

Three new AUSVETPLAN manuals to be completed (wool stores, processing plants, and exporters) by December 2004.

Delayed due to changed priorities. Aiming to complete by December 2005.

Capripox virus: Develop and import materials for test development from Canada; commence work on histopathology, electron microscopy, DNA-based and antibody detection tests.

Project on track with objectives for 2004/05 achieved in full.

### Molecular Genetics

#### 2004/05 Operating Plan target

#### Performance against target

##### Develop a virtual sheep genome map

Core molecular genetics sub-Program leader appointed by end of October 2005.

Professor Frank Nicholas, Sydney University was appointed as Core Technology sub-program leader.

Expression of Interest process for specific bioinformatics projects and services for sharing DNA libraries completed by November 2004, and key projects contracted by end-December 2005.

Formal review and tendering process completed by end of February 2005. Due to complexities arising however, it is not anticipated that contracting will be completed until August 2005.

##### Discover genes affecting important performance traits

By June 2005, to have identified key chromosomal regions relating to specific Quantitative Trait Loci (QTL) of importance (to 5–10cM) for each trait of economic importance (ie host resistance to internal parasites, sheep meat eating quality).

Following a formal project review, the program was varied such that the three regions will be mapped to 1cM by June 2006. A subcontractor is likely to be taken on to perform fine mapping in an effort to speed the research process.

By end of August 2004, to have completed lambing of ewes subject to round one biochemical interventions targeting foetal follicle development.

On-track, lambing successfully completed for initial drop.

By end of March 2005, progress validation of promising therapeutic biochemical targets, and initiate second round joinings.

On-track, second round joinings completed, and lambs have been born.

By June 2005, to have completed initial characterisation of lambs born in August 2004 in relation to key wool and skin attributes.

Report to be completed by August 2005.

##### Invest in practical, low cost parentage and marker delivery systems

By end of December 2004, complete EOI process for re-licensing of CSIRO/AWI DNA parentage IP, and have licensed product to a new Australian service provider able to deliver technology for a 30% reduction in the unit price at 95% effectiveness. By end of June 2005, initiate comparative evaluation process for various commercially available parentage technologies, including those not using the CSIRO/AWI IP.

A non-exclusive license was put in place with Signagen NZ and a second non-exclusive license arrangement is being considered by Genetic Technologies (GT). The GT parentage test has been released to the international market at a pricing 35% cheaper than the existing Signagen BAA-Code product, with projected 99% accuracy.

By end of September 2004, complete evaluation CAMBIA Diversity Arrays technology, for simultaneous application of parentage and performance markers.

Technical difficulties have required an extension until July 2005, following which a commercial review will take place.

### Applied Genetics

#### 2004/05 Operating Plan target

#### Performance against target

##### Refine existing tools and establish Sheep Genetics Australia

An additional 10 Central Test Sire Evaluation (CTSE) site joinings around Australia.

Acceptable progress has been made – 6 of 10 active sites joined in 2004/05. The number of active sites joining has been negatively affected by the drought in the Eastern states.

The publication of four quarterly updates and the annual publication of the Merino Superior Sires (MSS) reports 10 and 11.

MSS 10 published on web (<http://mss.anprod.csiro.au>) and in hard copy (distributed to 3,000 ram breeders). MSS 11 to be published by January 2006.

By October 2004, enact agreement between MLA, AWI and AMSEA ensuring automated uploading of CTSE data into the Sheep Genetics Australia (SGA).

On track, negotiations between SGA and AMSEA continue with resolution now due by August 2005.

Progress in ensuring MSS report generated via the ASGD database. Commencement of a project to investigate new traits in CTSE.

On track, planned for January 2006.

On track, commenced June 2005 with guidelines for collection of measurements.

Updated results of the SARDI Selection Demonstration Flock (SDF) delivered at the 2005 field day with attendance of 250 wool producers. SDF annual newsletter distributed to over 1,000 Merino industry participants.

Research into ram purchase decisions: By December 2004, complete planning process, develop contract and commence research.

By October 2004, finalise SGA business plan.

By November 2004, quality assurance protocols and standards for data entry, analysis, reporting and Australian Sheep Breeding Values (ASBV) trait accreditation will be completed.

By December 2004, four standard ASBVs in use by the Merino industry.

A completed combined national Merino Bloodline Evaluation report and the publication of an updated standard procedure for running bloodline evaluations.

On track, with 150 attending the field day. Newsletter released July 2005 to include outcomes from industry forums' technical review, and future project planning sessions.

On track, producer interviews commenced and national survey to be finalised by September 2005.

SGA Business Plan was finalised end of June 2005, and subsequently released for industry consultation in July 2005.

The technical development and standardisation process has involved substantially higher levels of difficulty than expected, and is expected to be completed in August 2005. The QA manual is to be released in July 2005.

ASBVs will be released in November 2005.

On track, Merino Bloodline Performance Package to be published late August 2005. Updated wether trial guidelines to be released late July 2005.

### Research

Research in progress to develop ASBVs for structural and visually assessed traits. Traits in development include staple strength, fibre curvature, reproductive performance, hoof conformation, mouth, etc.

Ongoing refinement of ASBV genetic parameters for meat, reproductive, parasite resistance and wool traits.

Receipt of final report of genetic alternatives to tail docking and mulesing, and recommendations incorporated into Applied Genetics strategic plan.

'Visual traits in across flock genetic evaluation' project with NSW DPI commenced. 'Novel Merino wool quality traits – pilot' project with AGBU finalised in July 2005, addressing 'trueness-to-type' and compressibility breeding values.

On track, parameters for major visually assessed traits to be delivered by November 2005.

Received and published on AWI website.

### Ensure widespread adoption

By end of December 2004, completed planning of the national sheep genetic education program that includes extension of SGA activities and other genetic technologies including bloodline evaluations and MSS.

Animal Breeding Summer School conducted at the University of New England completed with emphasis on wool industry traits.

Good progress made on QA manual and other aspects: outcome expected end of December 2005.

Course completed with 37 participants.

### Unique Sheep

Investigations established into the development of an easy care sheep flock, including examination of the mode of inheritance for 'bare breach' and 'tail less' animals.

Review of genetic alternatives to mulesing complete. Genetic assessment of tail-less ram and crutchless sheep underway.

### Wool Harvesting

#### 2004/05 Operating Plan target

#### Performance against target

#### Develop new harvesting technologies

Deliver as commercial prototypes at least two single stand UPSP models that are as productive as current shearing and also meet OH&S, cost and wool quality targets.

Two platforms currently in field trials. Peak Hill UPSP due for commercial release December 2005. SLAMP and Western UPSPs will start field trials in October 2005.

Procedures established by which electro immobilisation (EI) can be safely and humanely used for restraint of sheep.

EI study will be completed in October 2005.

Chemical de-fleecing: Complete stage 2 of the polymer coating feasibility study. Finalise forward strategy with Bioclip.

Polymer coating review to be completed August 2005. Bioclip collaboration not needed following additional commercial involvement.

#### Develop "add on" shearing technologies

Initiate a project to deliver an improved handpiece in collaboration with an existing handpiece manufacturer.

One promising new technology identified. This will be trialled via a low cost feasibility study.

Commence project to build 'rare earth' based electric motor.

At least one handpiece supplier will include Shear Express dead man switch in existing product line.

Complete purchase of rotary handpiece IP and commence further development if warranted.

Harvesting area of AWI website operational by end 2004.

Collate all existing information on shearing shed design and OH&S and make available to industry.

Collate 'best practice' design of crutching cradles and make available to current suppliers.

A large handpiece manufacturer has indicated interest in developing this technology.

Now available from Heiniger and potentially from other manufacturers, but more research needs to be carried out into 'lockup' safety issues before this is made commercially available.

No interest from any manufacturer in this technology.

Completed and operational.

Supply of practical information to allow building and modification of shearing sheds to be completed in November 2005.

This project is being done in collaboration with the Kondinin Group and assesses crutching trailer design via a comparative analysis. A report will be published in October 2005 with design guidelines supplied to manufacturers.

### Address the supply and quality of shearing labour

Support training of shearers and wool handlers in partnership with state education authorities.

Establish a national training network to deliver skills required by emerging new harvesting technologies.

All training organisations to use a standard set of quality shearer/wool handler learning materials.

First national 'train the trainer' workshop held.

Action plans in place for each state involving 11 different training organisations. In-shed training was delivered to 1,750 shearers and 778 wool handlers in five states.

Network of 20 registered training organisations (RTOs) established. All RTOs participate in two national workshops. All national and state Project Advisory Panels established.

Training organisations committed to a standard approach to delivering and assessing shearer and wool handler training. Learning objects and assessment tools developed and endorsed by RTOs. Audit of existing resource materials completed. Resource development plan completed. Novice Shearing DVD completed. Work commenced on Improver / Professional and Shed Skills DVDs.

First workshops held in Dubbo, Geelong and Narrogin. 75 shearer trainers participate.

### Education and Adoption

#### 2004/05 Operating Plan target

Introduce a project that links existing 'early adopter' networks and provides further support for high level innovation on farm through workshops and networking.

Coordinate the reporting of adoption with other RDCs and report to government and other agencies as required.

Investigate a model of industry recommended production practices (BMP) that establishes targets for the industry and informs AWI product and service delivery.

Resource state grower networks to provide producers with the opportunity to be involved in participatory research and development.

Implement best practice recruitment and market segmentation strategies to increase participation and adoption rates amongst producers.

Work with industry partners to have a national network of grower extension programs in place that target the 'aspirant' market segment and support 50% of participants making a change on-farm to their production or management practices.

Progress the implementation of a web based sheep knowledge warehouse, with business plan agreed by September 2004, build phase completed by March 2005, and content available by June 2005.

#### Performance against target

All workshops now to be delivered during 2005 calendar year. By June 2005, 153 growers attended first round of three workshops. Information kits, research needs and international links to be reported on by December 2005.

RDC Top 100 Adoption Targets booklet published.

Demand identified through industry consultations. MLA has agreed to be project partner. Initial development work commenced February 2005.

Producer Research on Wool (PROW) Program approved and pilot established. Further roll out of program postponed after budget review.

Recruitment research report will be completed in 2005 calendar year. Market segmentation project cancelled due to review of program budget.

Programs commenced in each state. New state woolgrower groups for NSW (Wool4Wealth), WA (The Sheep's Back) and Queensland (Leading Sheep). Impact evaluation system in place for each program.

Delayed due to problems with the ILRIC knowledge warehouse which will not proceed. However, AWI joined Sheep and Beef CRC to implement livestock e-library. Content was available to pilot group by May 2005 with public release due by December 2005.

Progress the implementation of three international e-learning networks that manage the delivery of wool technical content to students and industry through vocational and university providers on a regional basis.

Develop and distribute 150 copies of a schools resource kit to improve the quality of wool technical education in schools.

Develop undergraduate multi-media e-learning units for the delivery of wool technical education in industry, universities and vocational providers.

Six regional career initiatives to be contracted by December 2004. Careers CD completed by December 2004. 30 students involved in regional initiatives by June 2005.

Introduce a project to build leadership skills in AWI-funded woolgrower groups.

Assist over 150 new entrants into the wool industry through scholarships and support of other agency initiatives.

Scoping study identified limited demand. Negotiations with individual universities put on hold due to limited demand.

Future-Fleece CD revision completed. Schools kit revision delayed due to staffing issues within Sheep CRC. Kits to be distributed during school in-service programs during 2005.

Units completed for Early Stage Wool Processing, Sheep Genetics, Sheep Meat Science & Biology, Clip Preparation & Wool Marketing, Sheep Production (wool and meat), Wool Metrology, and Wool Biology.

Delayed due to staffing issues within Sheep CRC. Activities to be completed during 2005.

Project cancelled due to relative high cost.

146 award recipients funded by AWI.

## Textile Technology

### Improved Appearance Retention

#### 2004/05 Operating Plan target

#### Performance against target

#### Bright colours

Complete an evaluation of a commercial product to improve bleaching.

Commercial partner ready to market product once pilot-scale trial have confirmed its benefits. Probability of technical success in achieving improved whiteness of wool products is high.

Identify new formulae to minimise photo-yellowing.

Treatment effective in laboratory found unsuitable for commercial use. Alternative Fluorescent Whitening Agents and pre-treatment for the wool being evaluated.

#### Pilling

Technical report detailing current information on pilling for industry distribution. Determine the effectiveness of combinations of existing spinning and chemical technologies to improve pilling.

A fundamental study into pilling has developed a potential new approach to the problem which is expected to be fully evaluated by October 2005.

#### Loop distortion

Verify performance of low-twist spinning technologies and conclude agreement with commercial partner.

A project started in April 2005 with the necessary spinning machinery donated by a German machine manufacturer. A separate fundamental study of spirality and loop distortion in knitwear is to be completed in 2007.

#### Setting and wrinkling

Complete the formulation of crease setting technology and have an agreement with a manufacturing and distribution partner.

Commercial trials successful with effort now targeted at broad adoption in China and Thailand.

#### Lightfastness

Select the most appropriate technology to enhance the lightfastness of wool fabrics and complete commercial proving trials.

A project to deliver clean dyeing of wool had successful trials and the technology is ready for commercialisation.

#### Easycare

Complete industrial trials of TEC technologies for woven products.

Technical work successfully completed with commercialisation underway in Asia. Some technology transfer problems being managed. A separate TEC jacketings projects experienced serious technical problems in garment manufacture and partners are being sought in China to find cost effective solutions.

Licensing agreements for the production of TEC trousers and smart casual or suit jackets signed with at least two commercial partners and marketing plan agreed to.

Licensing agreement signed with one company in Asia. Negotiation underway to roll out technology in China.

Work with selected US retailers to introduce TEC knitwear made from Australian Merino wool for the US market.

Commercialisation plan for TEC blankets and under-blankets approved by October 2004.

Retailers in USA, Talbots and LLBean, ready to launch product in August 2005.

Commercialisation plan received and reviewed but the evaluation concluded that further commercialisation of wool bedding technologies was unwarranted at this time.

**New Markets for Australian Merino Wool**

**2004/05 Operating Plan target**

**Performance against target**

**Market analysis**

Report identifying market potential and access routes to the surfwear, childrenswear and extremewear markets.

Report identifying potential partners in Europe received. A new product development project for this market is being developed.

**Product development with designers and garment makers**

One designer and retailer forum to be held. Commission eight market development projects with eight new brand/distribution partners.

Akira Isogawa project completed successfully and a new textile development is selling through his distributors around the world. Josephine Nathan project completed successfully with her presentation and show at Hong Kong fashion week.

**Development and commercialisation of novel products**

Develop 10 marketing platforms that provide the science portfolio with the appropriate vehicle to commercialise the successful research work. Provide marketing packages for delivery to brand/distribution partners.

Fifteen textile product development themes (marketing platforms) developed. These are being used to direct R&D.

Five brand/distribution partners by June 2005 established for the development of a range of innovative fabrics that enhance the tactile properties of wool garments.

Projects started with brand/distribution partners in China, Australia, UK, Japan, India and USA.

Licensing agreement signed with one vertical partner in China and one in India to commercialise the easy care wool business shirt technology.

Licence agreements signed with partners in China and India. Initial technology transfer trials in China completed successfully. Products being assessed with retail buyers. Technology transfer with South Korean company due to start in September 2005.

One commercial northern hemisphere non-woven needle punch facility operational.

Macquarie Textiles utilising the nonwoven facility to manufacture products of an industrial textile nature. New apparel samples being prepared for USA market. Agreement not to spend any further funds on commercialisation.

Two commercial northern hemisphere fibre-knit facilities operational.

Technology transfer and commercialisation phase under way. Two manufacturing companies in UK and Italy have agreed to commercialise the technology and apply it to wool.

Processes to improve softness of wool fibre in commercial use.

Kookai/ABMT Supersoft project completed successfully with product in Australian stores.

**Cost Competitive Wool Processing**

**2004/05 Operating Plan target**

**Performance against target**

**Complete existing machinery development projects**

A preliminary assessment by several industry partners of the fitness for use of vortex spun wool blend products by December 2004, and marketing plans to extend the technology subsequently in place.

Research successfully completed. Five assessments by industry partners of the MVS system successfully completed. Successful commercial trial in Hong Kong and the undertaking of initial planning for the technology transfer to China and Indonesia.

Small scale prototype of new wool finishing machine built and evaluated by April 2005.

Project abandoned due to withdrawal of partner.

Modified scouring practises to be available to processors that will significantly increase top yield.

Successfully completed the development of a low temperature detergent with potential energy saving of up to 25%. Commercial trial in progress in India with plan for further trials in China.

Feasibility study completed to reduce the cost of carding wool by introducing a new technology.

Significant delays with equipment damage and poor results to date. Project partners to review in July 2005.

As a step to having a high production woollen spinning system, compare yarn quality and associated productivity increases with current practice.

Feasibility study failed. Project has been terminated.

Establish research partnerships with machinery manufacturers to identify two new targets for innovation in spinning of wool.

A project to reduce imperfections in fine worsted yarns has started with Indorama in Thailand. A proposal relating to a single phase multi-fold yarn formation system was rejected on grounds of excessive cost. AWI is now working directly with the machinery manufacturer.

Establish limitations of current practices to eliminate the effect of variation in raw material on the colour of dyed wool textiles, and source industry relevant materials by March 2005.

Samples of wool with different dyeing properties collected from industry. Fibre and fabric evaluation in progress.

#### **Develop new machinery and process developments**

Reduce the pollution load and improve the spinning quality and yield of tops by transferring best established practice to Chinese scourers.

Deferred pending review of route for technology transfer of existing wool processing knowledge in China and India.

Decide on commercial need and decide on best route to market for spinning prediction systems.

Topmaker and Topspin successfully transferred to mills in China and India. No further activities planned.

Commission R&D project on new finishing techniques to allow a range of finishes from a single wool base.

Preliminary laboratory scale work showing promise. A project is being developed with corresponding provider.

#### **Building on wool's natural image**

Progress the development of a cost effective and robust non-chlorine continuous process for producing machine washable wool.

Plasma project not started due to commercial partner withdrawal. Zero AOX project started, initial trial completed and data being analysed.

Using metal free dyes, develop a cost effective technique for reducing dyeing time.

Commercial partner ready for the selection of prime compounds for large scale trials – probability of success is high.

Identify and exploit more environmentally-friendly routes for processing wool to end product by developing an Eco-wool marketing platform.

Industry experts consulted and Eco-wool report completed in February 2005. Two key recommendations being considered by AWI.

Evaluate the use of microwave technology in wool scouring.

Terminated due to technical failure of industrial trials.

#### **Transfer of existing knowledge**

CAWIN: Undergraduate and visiting fellowship programs in China to commence by July 2004. Masters and PhD scholarships to commence by February 2005. Six R&D projects to be conducted by participating institutes in collaboration with local Chinese mills by January 2005.

Number of students studying wool at CAWIN universities has increased significantly since 2003: from 50 to 131 undergraduate students, from 18 to 54 Masters students in 2005. Four Ph D students have been selected to study at Deakin University on wool topics. Six R&D projects are being conducted by CAWIN university staff and students in collaboration with key wool mills. Two exciting projects are (1) development of PLA wool blend uniforms and (2) development of wool fancy yarns.

Two training courses in wool measurements and buying specifications as requested by Nanjing Wool Market completed by October 2004.

One training course completed in September 2004 in Shanghai involving 120 senior managers and technical managers. Other courses will be conducted as required.

Within the China strategy, select partners by March 2005 and agree on a plan to reduce manufacturing cost by at least 10%.

One mill has expressed interest. With the establishment of AWI Shanghai Office, routes for technology transfer in China are being reviewed.

Initiate three technology transfer projects with four participating mills in India.

Laboratory trials of TEC shawls successful with planning of industrial trials underway. Wool cotton scoping study final report due in September 2005. Two more projects being developed.

#### **Fundamental Wool Science**

##### **2004/05 Operating Plan target**

To help with technical advances in processing and product performance (eg pilling and handle), determine the amino acid composition, molecular weight and sequence of the key portions of the labelled peptides/protein of wool fibres.

##### **Performance against target**

Techniques developed for labelling thio-ester link and characterising the protein on the surface of the wool fibre. These will provide anchor points for the application for new finishes to wool fibres.

Prepare at least three papers on the chemistry and morphology of the proteolipid layer and exocuticle for the World Quinquennial Wool Conference in Leeds 2005.

Identify the most appropriate technique for stripping the lipid layer from the wool surface and replacing it with an alternative layer to enable modification of the surface of the fibre.

Complete the collection of images and information for a database of information on fine structure of wool fibres that can be used to evaluate implications for fibre properties.

Identify and characterise yellowed wool fibre protein fragments.

Initiate a project analysing the geometry of fibres within yarns from the residual torque characteristics.

13 papers detailing new knowledge on the wool fibre have been submitted to the Wool Conference at Leeds.

Stripping of 70% to 80% of the lipid layer achieved. Appropriate reactive chemical that can be attached to the uncovered protein layer identified so that new finishing agents can be attached.

Collection of images and quantitative information on the morphology of the wool fibre proceeding with storage on a nearly developed database.

New mechanism for accelerated photoyellowing in the presence of Fluorescent Whitening Agents identified. This represents a potential breakthrough in developing new approaches to overcome the photo yellowing of wool.

Project initiated and on track to be completed by 2007.

### Trade Development

#### Market Information

##### 2004/05 Operating Plan target

Review and improve current market information supplied by TWC with view to broadening scope of TWC market intelligence in 2005.

Continue to provide TWC market intelligence to growers through monthly market briefings, the quarterly Woolmark Business Survey, business intelligence news distributed through a variety of media, grower business briefings/workshops, access to the Harvest database and TWC's website.

Initiate Trade Policy business intelligence service to provide stakeholders with significant information on matters of international trade impacting on the wool industry.

To improve wool production and levy forecasting, develop and test stage 1 of national flock model, including improved data collection required for above.

Replace the existing Pricemaker<sup>®</sup> service with improved AWEX based service, including a link to spot market prices and benchmarking.

By March 2005 complete China Consumer Demand Survey, providing vital market intelligence for future strategic marketing platforms in China whilst identifying significant project proposals to stimulate sustainable growth in Chinese domestic consumption of wool apparel.

##### Performance against target

Market Intelligence expanded to include key market case studies and manufacturing / retail focused articles.

Market Intelligence reports are now included in the *Beyond the Bale* publication, expanding the dissemination of TWC intelligence to around 28,000 woolgrower shareholders.

Service is outsourced to industry specialists ITS Global. Intelligence includes monthly multilateral trade updates to be included on the AWI website, in addition to specific bilateral trade reports including analysis on the potential China-Australia FTA.

Stage 1 of flock model completed and will be trialled for September Wool Production Forecasting Committee meeting.

New 'Woolcheque' service launched July 2005 and has been very successfully received by woolgrowers.

Consumer survey completed. Forthcoming analysis was used during the development of AWI's China Strategy.

### Wool Quality and Logistics

#### 2004/05 Operating Plan target

##### Fibre specification

40% target market take up of the Dark and Medullated Fibre (DMF) vendor declaration by end 2005.

One automated DMF test in commercial trials at AWTA.

Identify appropriate raw material and supply chain to source raw wool ranging from 18.5–20.5 micron for optimal next to skin wearer comfort.

##### Performance against target

Uptake for 2004/05 averaged 28%, and additional investments made available to lift adoption rate.

Agreement reached between CSIRO, AWTA and AWI on industrial trialling, and AWI have provided resources to enable CSIRO technical support of installation, training, and trialling.

Project postponed, pending outcomes of 'Merino Super Soft' marketing platform initiation.

By end of August 2004, staple strength predictor project to be approved and contracted.

Complete 25% of all grower and other stakeholder OFFM workshops, with significant resulting on-farm practice change.

Delayed, but the project is underway and progressing.

Nineteen woolgrower workshops completed. Majority of feedback from participants has been overwhelming positive. Sixty per cent of participating non-users of OFFM indicate intent to implement OFFM following the workshops.

**On-farm logistics**

Complete on farm database and data transfer standards for information exchange across supply chain.

Finalise sheep coat standards and set up six demonstration sites.

Finalise sheep ID standards and accredit key existing suppliers.

First stage completed June 2004. Unlikely to continue further because of lack of Sheep CRC funding.

Project abandoned because analysis indicated the market may be smaller than thought.

Low priority for Sheep CRC. No further work expected in this area short term.

**Off-farm logistics**

Deliver stage 1 of a computer model, enhancing the data currently provided by the 'Sheep's Back to Mill' (SBTM) publication.

Industry advisory group will consider current bale labels and potential for bale ID, based on previous AWI trials.

Project currently underway, with start delayed until review of data sources for SBTM publication was completed.

Technology and cost/benefit studies underway, funded 50:50 by AWI and AWEX. Bale label design reviewed and will be changed.

**Market Access and Trade Development**

**2004/05 Operating Plan target**

**Performance against target**

**China**

The AWI China office to lobby Chinese industry and Government in favour of a China-Australia Free Trade Agreement (FTA) which benefits Australian wool and China's wool textile industry.

The AWI China office to include technical resources in textile technology so as to be identified as able to provide specialised innovation and development to the Chinese wool industry.

AWI retains a presence in Beijing that allows for localised lobbying of Chinese Government. This takes place through liaisons, government submissions and further negotiating dialogue.

In October 2005 AWI set up an office in Shanghai. Six staff were recruited representing specialist knowledge in all facets of textile technology. The office is focused on engaging with manufacturing and retail brand partners and building credibility for both AWI and Australian wool.

**Market access**

Represent the Australian wool industry during negotiations on a possible China-Australia FTA.

Publish of analysis and recommendations regarding technical and non technical barriers during China-Australia FTA negotiations.

Provide submissions through the Australian Government to Chinese Government regarding recommendations for management of quota allocation for raw wool and tops.

Work closely with the Joint Working Group to overcome Fit For Purpose issues in China.

Prepare a paper detailing the benefits to Australia and the EU of tariff reductions between tops and raw wool.

Work with the India Joint Working Group to negotiate with Government regarding tariff reductions.

We are continuing to pursue dialogues and strategies which enable us to effectively represent the wool industry during FTA negotiations.

AWI developed its own Trade Policy market intelligence resource to keep both industry and government up to date on all aspects of wool related trade policy.

Completed.

The Fit For Purpose survey has been completed and identified action that the wool textile industry in both countries could take to ensure the image of Australian wool is of the highest calibre.

Not initiated due to lack of industry support and shift in priorities.

A new Joint Advisory Group on India has been set up which focuses on engaging the retail and manufacturing industry, dealing with their concerns relating to woollen apparel. The first meeting was held in July 2005 identifying areas of potential projects to help build the domestic consumption and export of Australian wool based apparel in/from India.

Providing Indian Ministry of Textiles with information justifying reductions in tariffs.

Work with industry associations like the Indian Woollen Mills Federation and Shawl Club to encourage domestic support for tariff reduction.

Provide submissions to Government on behalf of Australian wool outlining the industry's position regarding negotiations on both WTO Agriculture and Textiles and Clothing.

Ongoing.

AWI undertook three visits and conferences since September 2004. Projects pending.

Submissions made through NFF.

### Trade development

In China, establish R&D partnerships with at least five major wool garment makers and retailers to develop new wool products for the Chinese domestic market.

Chinese wool Industry summit to be organised by end 2004.

R&D conference to be held in China in conjunction with IWTO and Chinese Wool Textile Association.

Two to four seminars held with the top 50 buyers in China to ensure the quality of Australian wool meets their requirements.

In India, establish R&D partnerships with at least two major wool garment makers and retailers to develop new wool products for the Indian domestic market.

The machine washable suit (Heilan Group); Esquel cotton/wool golf polo shirts; Xinlong non woven skin care; Novetex Soft wool project; anti moth woollen knitwear.

JWG to be held late 2005.

Sponsorship of IWTO meeting in Shanghai.

Seminar held over two days and attended by 80 people on each day. Other seminars held in individual mills.

A project for TEC application on suits, blazers and trousers for domestic retail and export market was established with a target of 360,000 garments in the first year rising to 720,000 garments in the second year. A larger project was implemented in applying TEC to shawls which account for about 3.5 million kilograms of Australian wool in India.

Initiate a detailed country report for Italy, Japan, Korea or Taiwan outlining technical and non technical trade barriers.

Scoping for this project has begun with initiation of multilateral trade reviews from ITS Global focusing on WTO Agreement on Textiles and Apparel.

Initiate a detailed analysis of the potential for Australian wool exports / domestic retail market in Turkey.

Delayed due to China Trade priorities.

Initiate a series of project proposals through specific consultant contacts operating in Russia.

Scoping study to be carried out by October 2005.

### Wool trading

Conduct a scoping study into hedging, futures, forward contracts and other methods by which woolgrowers and processors can more effectively reduce the risk caused by the volatility in wool auction prices.

Report produced on the current and potential wool marketing and risk management options available to Australian woolgrowers and pipeline participants through to early stage processing.

### Corporate Affairs

#### Communications

#### 2004/05 Operating Plan target

#### Performance against target

#### Shareholder communications

Produce and distribute to shareholders and other stakeholders six issues of *Beyond the Bale*.

Six issues of *Beyond the Bale* produced and distributed to shareholders and 650+ industry and government stakeholders.

Deliver Chairman's letter to shareholders three times during the year.

Chairman's letter sent September 2004, April 2005 and June 2005.

Produce and deliver a product catalogue for shareholders and stakeholders.

Project underway but completion delayed until August 2006.

#### Events

At least 150 shareholders attend the AGM Forum and AGM.

More than 200 people attended the 2004 AGM and Forum, including 185 shareholders.

An average of 150 shareholders attend each of four AWI woolgrower information forums held in key woolgrower centres throughout Australia.

An average of 220+ woolgrowers attended the five AWI woolgrower information forums held during 2004/05, totalling over 1,100 woolgrowers for the year.

AWI Showcase is refitted annually and information updated prior to each event to ensure visitors receive most up-to-date information on AWI activities.

A decision was made in October 2004 to sell the Showcase.

AWI displays and/or product suitcases and/or speakers at each of the state farm organisation (SFO) conferences.

Displays and product suitcases were at each SFO conference during the year.

AWI speakers or nominated speakers participate in scheduled events for the AWI Showcase and an additional 10 industry events targeting shareholders.

In addition to AWI's five woolgrower forums, AWI speakers presented at 60+ key events or seminars around Australia during 2004/05.

### Web communications

Improve useability of the AWI website, as measured by before and after user surveys.

Results from the survey show that users found the website easier to navigate with faster download times, resulting in a greater number of revisits.

Increase by 30% the number of email update subscriptions.

Email update subscriptions increased 56% during 2004/05 to 5,133.

Increase the range of project information on the website, as identified through the web index.

Information on all areas greatly expanded with new areas included such as Design & Marketing and Trade & Markets.

Maintain an average of at least eight website page views per visit session each month.

An average of at least eight website page views per visit session was maintained during 2004/05 with peaks of 13 reached and an average of 9.5 for the year.

Increase by 20% the average daily visits to the AWI website.

Average daily visits increased 42%, from 774 over 2003/04 to 1097 over 2004/05.

Increase from 10% to 20% the proportion of woolgrowers who have visited the AWI website.

To be measured by market research in August 2005.

### Publications

Produce *Insight and Innovators* fact sheets to cover all AWI program areas during the year.

Total of 24 new or updated fact sheets, such as *Woolfleece* and *Battling the blowfly*, produced during 2004/05 and all key program areas covered.

Produce and annually update wool industry fact sheet.

Updated October 2004.

### Wool brokers and agents

Involve wool brokers and agents in AWI woolgrower information forums.

Wool brokers and agents were involved in each of the five AWI woolgrower forums held in 2004/05.

### Voice of the Woolgrower

Develop and undertake a *Voice of the Woolgrower (VOW)* survey on woolgrowers' R&D priorities.

Due to extensive stakeholder consultation during 2004 and ongoing consultation through industry groups, decision made not to undertake VOW on woolgrower R&D priorities. Communications market research began in June 2005 due for completion August 2005.

### Industry and Government Relations

#### 2004/05 Operating Plan target

#### Performance against target

#### Industry relations

Complete a yearly survey of 20 woolgrowers from woolgrower industry organisations.

Survey was to be included in the *Voice of the Woolgrower* survey which was not initiated.

Hold five AWI *Information Exchange Sessions* per year with WoolProducers and woolgrowers associations, the major woolgrower group and breeder groups.

Two Information Exchange Sessions undertaken, each attended by 40 industry leaders, including the Strategic Planning Workshop.

#### Government relations

A bi-monthly update on current wool industry matters and AWI RDI activities is published and sent to Australian MPs in wool growing electorates.

WoolMatters published and distributed.

#### Industry crisis management

By November 2004, a completed wool industry incident management plan is endorsed and circulated to industry.

Wool Industry Management strategies developed as part of the Australian Wool and Sheep Industry Taskforce in defending the wool industry from PETA boycott.

By February 2005, industry stakeholders and AWI staff participate in an annual wool industry crisis rehearsal and review workshop.

Deferred to 2005/06 due to commitment to the Australian Wool and Sheep Industry Taskforce in defending the wool industry from PETA boycott.

### Advisory panels

Fifty woolgrowers through ten new advisory panels to have input into AWI research.

Ten new panels established with 27 new woolgrower members.

### Strategic plan for industry

The Australian wool industry to have held a workshop to establish the vision and goals for the industry.

Wool Strategic Plan overtaken by merger discussion between AWI and AWS.

### Next generation of woolgrowers

Ten next generation, 25–40 year of age woolgrowers participate in two AWI Information Exchange Sessions.

Project to be implemented in 2005/06.

Complete annual Industry Leaders International Wool Research Study Program by April 2005.

Project to be implemented in 2005/06.

Hold a young wool industry seminar by November 2004.

Project to be implemented in 2005/06.

wool production



# wool production

AWI's Wool Production portfolio works with woolgrowers to help them compete profitably in the international markets for wool and sheep meat through the adoption of on-farm innovations. The goal of this portfolio is to help woolgrowers increase on-farm productivity by up to 20 per cent.

## Key outcomes and achievements

### Sustainable Production Systems

#### TIMERITE®

During the year, woolgrowers in south eastern Australia joined those in Western Australia to protect their pastures from redlegged earth mites with the launch in July 2004 of the new TIMERITE® service that now covers all areas of Australia affected by the mites. TIMERITE® provides a single optimum spray date in spring that most effectively controls the mites until next winter, tailored for specific locations and climates. This year, 3,886 TIMERITE® spray date reports were provided free of charge to woolgrowers from the AWI Helpline or the TIMERITE® website [www.timerite.com.au](http://www.timerite.com.au).

#### Falkiner Memorial Field Station

Major capital works were completed during 2004/05 at the Falkiner Memorial Field Station – the research, development and demonstration facility owned by AWI on behalf of its shareholders. The works included irrigation refurbishment, new fencing and stock water systems. The Sheep Genomics Mapping Flock project, jointly funded by AWI and MLA, was established with Merino, Merino/Border Leicester First Cross, White Suffolk and Poll Dorset ewes joined to 17 industry sires to produce the first drop of 2,700 lambs. These will be DNA sampled and assessed for wool, carcass, reproduction and parasite resistance traits during early life as the first phase of the project.

### 'Land, Water & Wool'

'Land, Water & Wool' is the wool industry's collaborative research investment in sustaining natural resources. 7,600 woolgrowers have now benefited from the 'Land Water & Wool' sub programs relating to saline land, native vegetation, biodiversity, rivers, pastoral country and climate forecasting. A large range of information products and management guides are being delivered by the sub programs. Publications produced this year include *Productive native pastures in the high and medium rainfall zones* and a series of three practical case studies on wool production and biodiversity. See Appendix C for details of other publications produced during the year.

### National Annual Pasture Legume Improvement Program (NAPLIP)

NAPLIP has been successful in providing woolgrowers with new legume cultivars for increased pasture productivity and farm profit. In 2004/05, two cultivars of Hedysarum 'Moonbi' and 'Wilpena' and 'Mintaro' sub clover were developed for commercial release. Moonbi is suitable for grazing in a permanent pasture while Wilpena is suitable for hay production. Both grow in slightly acid to alkaline, well drained soils (loamy sand to clay and heavy textured, red brown earths), particularly alkaline soils with free lime. Mintaro is a more persistent and productive subclover than Rosedale for long-term pasture phase systems (3–5 years) with neutral to acid soils. The *Pasture Legumes for Temperate Farming Systems – Ute Guide* was launched.



## Animal Health and Welfare

### Internal parasites

A comprehensive information package – ‘WormBoss’ – generated from decades of research and experience of sheep worm management is now available. 10,000 copies of the WormBoss CD-ROM have been produced and are being distributed for free by AWI, the Australian Sheep Industry CRC, Elders Ltd, Landmark Ltd and CRT. The WormBoss website – [www.wormboss.com.au](http://www.wormboss.com.au) – received 12,352 visits in its first two months.

Improved worm management strategies are being developed through the Integrated Parasite Management sheep project, involving 22 commercial demonstration farms, situated in each state across Australia. Each demonstration farm has a focus group to allow other woolgrowers to learn about the strategies. Work has shown that woolgrowers could prevent worm outbreaks if they regularly monitored sheep parasite levels.

### Blowflies and mulesing

There was a major focus on mulesing alternatives during 2004/05. The collagenase

technology at the University of Adelaide moved towards commercial reality with various collagenase types tested and dose volume, spacing, and depth parameters finalised. Formulation of the product is in progress. Injection remains the major obstacle but three new injection devices have been demonstrated and will be tested in field trials in late 2005. Other active compounds and applicators are being evaluated as back-ups by AWI, and we are also working with sheep breeders to assess the potential to breed sheep that have reduced susceptibility to breech blowfly strike.

We funded development of a workshop training course for mulesing operators which was launched in 2004/05 to ensure the highest possible standards are maintained throughout the industry.



AWI is putting extra effort into finding alternatives to mulesing.

## HIGHLIGHTS

- Two upright posture shearing platforms, to enable shearing to be carried out by a shearer standing upright with the sheep restrained, commenced field trials.
- A worm management package ‘WormBoss’, which aims to maximise the cost effectiveness of drenching and decrease the risk of drench resistance on properties, was launched on CD-ROM and its own website.
- A lure to attract feral dogs and foxes to baits or traps, FeralMone®, was launched in April 2005 and can be purchased from rural resellers.
- The largest sheep genomics trial in the world commenced at Falkiner Memorial Field Station, Deniliquin. The trial will attempt to find gene markers for wool, meat, parasite resistance and reproduction traits.
- Results from the grower driven SARDI Selection Demonstration Flock project show that the ‘measured performance’ line hoggets have increased fleece value by \$19/head, or fifty per cent over the ‘control’ line.
- Two cultivars of Hedysarum ‘Moonbi’ and ‘Wilpena’ for use in slightly acid to alkaline well drained soils and ‘Mintaro’ sub clover for use in neutral to acid soils were developed for commercial release.
- The national network of state woolgrower groups was finalised with the launch of new programs in NSW (Wool4Wealth), WA (The Sheep’s Back) and Queensland (Leading Sheep).

### Lice

Field trials of the lice detection test were completed in 2004/05. The test has proven to be highly sensitive and specific, finding very low levels of infestation and giving very few false readings. AWI, together with NSW Department of Primary Industries and CSIRO Livestock Industries, has identified two potential producers of in-shed 'dipstick' tests and they will commence work in early 2005/06.

### Pesticide residues

A program with the Department of Agriculture, Fisheries and Forestry to evaluate the proficiency of laboratory testing for pesticide residues on wool was re-established. The program gives buyers and sellers of wool confidence that reported residue results are accurate. This will be increasingly important as the European Union (EU) seeks low-residue wools. The EU's Integrated Pollution and Prevention Control (IPPC) directive

is broad reaching and clamps down on wool scours and emissions into European river systems. The survey of residues on Australian wool continued throughout 2004/05.

### Feral dog and fox control

A lure to attract feral dogs and foxes to baits or traps, FeralMone®, was launched in April 2005 and can be purchased from rural resellers. Trial work showed that the lure can be a valuable addition to control programs and trappers have reported successes with problem dogs.

Significant progress was made by AWI and the Pest Animal Control CRC towards a new toxin for control of feral dogs and foxes with a commercial launch on track for 2007. The toxin causes a rapid and humane death and appears not to threaten non-target species such as native wildlife.

### Genetic Technologies and Wool Quality

#### Sheep Genomics program

The joint AWI and MLA Sheep Genomics program is now well established and lays the foundations for the next generation of smart genetic tools. Major achievements in 2004/05 include successful establishment of the world's largest gene mapping flock at Falkiner Memorial Field Station, initiation of an international consortium to complete the Sheep Genome Map by 2006, introduction of two new co-investors in the program, and proof of concept for simple therapeutic alteration



of lamb wool quality. The initial phase of the program, to result in prototype gene markers for a wide range of economically valuable traits, is due to be completed in 2008.

#### Sheep Genetics Australia

Sheep Genetics Australia (SGA) unites MLA and AWI's sheep genetics initiatives to integrate and maximise genetics knowledge. Through the integration of industry datasets, the establishment of a common language and the standardisation of genetic analysis techniques, Merino breeders will be able to objectively compare the genetic merit of rams for a much wider array of traits and with more confidence, as an adjunct to other selection techniques. The enormous diversity within the Merino breed has provided a large challenge to Australia's geneticists to create reliable and accurate comparisons of all types of Merinos in all environments. Development work is now largely completed and a launch is planned for October 2005.

**Top:** Genetics is an important part of AWI's approach to finding mulesing alternatives.

**Left:** FeralMone® helps attract feral dogs and foxes to traps and baits.



### **SARDI Selection Demonstration Flock**

Results for the seventh year of the South Australian Research and Development Institute (SARDI) Selection Demonstration Flock (SDF) were completed and published. The SARDI SDF annual field day attracted 150 attendees to hear the results: a dramatic improvement in fleece value continues in selected lines. The 'measured performance' line hoggets have increased fleece value by \$19/head, or fifty per cent over the 'control' line.

### **On-Farm Fibre Measurement (OFFM) program**

The On-Farm Fibre Measurement (OFFM) program is designed to increase woolgrower understanding of OFFM technologies and to ensure the operators of the technology adopt standard procedures and issue reliable results. During 2004/05, OFFM grower workshops commenced across Australia to improve woolgrowers' understanding of how they can use OFFM to increase the profitability of their sheep flocks. Sixteen workshops had been held by the end of June 2005. The OFFM QA program has attracted 100 per cent participation from operators of OFFM technology with a high proportion receiving full accreditation by the end of June 2005.

### **Shearing**

#### **New shearing technologies**

A major goal is to develop low-cost, modular, upright wool harvesting machines to enable shearing to be carried out by a shearer standing upright with the sheep restrained.

## **Sustainable Grazing on Saline Land** Wool Production

### CASE STUDY



Sustainable Grazing on Saline Land (SGSL) is the largest of the sub programs within Land, Water & Wool. In total 120 producer groups have joined the SGSL network, with around 1,200 woolgrowers actively involved with scientists in trialling a range of pastures, shrubs and management techniques to improve the productivity of saline and waterlogged areas on their farms.

Woolgrower Michael Lloyd has more than a million saltbush shrubs growing on nearly 600ha of revegetated saltland at his property near Lake Grace, WA.

Early results from SGSL trials at Lake Grace have shown that saltbush can draw down the water table by two metres in saline and waterlogged areas. When saltbush is planted in alleys it can create an environment suitable for annual grasses and legumes. At Lake Grace a 40 per cent

increase in animal production was achieved by rotationally grazing areas with saltbush alleys and pasture.

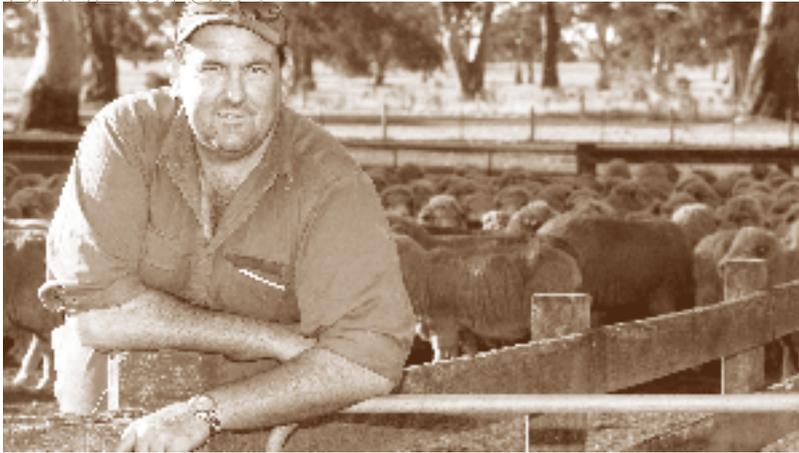
In NSW, saline and waterlogged areas that were suffering from erosion have been planted with tall wheat grass, puccinellia, fescue, phalaris, ryegrass, cocksfoot, and strawberry and white clover. In conjunction with subdivision and rotational grazing these saltland areas now carry 11 DSE/ha compared to 8 DSE/ha on the rest of the farm.

"Thanks to saltbush we've quadrupled our stocking rate to more than eight DSE per hectare without additional clovers; we produce more wool and the quality has improved. Our experience also shows that costs can be recouped in a short time frame," Mr Lloyd said.

## Lifetime Wool

Wool Production

### CASE STUDY



The Lifetime Wool project aims to provide woolgrowers with optimal feeding solutions to maximise the performance of the ewe and her progeny throughout their lifetimes. Early results show that optimal feeding of the pregnant ewe will result in increased lamb survival and wool production and decreased fibre diameter.

Greater emphasis on ewe nutrition increased weaning percentages by 30 per cent last year on Nareen Station's Merino wool operation in western Victoria where approximately 19,000 Merino ewes are joined to Merino rams.

Station manager Grant Little said a downward trend in lamb marking percentages in his locality had been reversed on Nareen Station after the business became involved in the Lifetime Wool project.

"The project has helped us understand the critical thresholds of ewe nutrition for ewes to deliver a well-developed foetus with a good birth weight and therefore higher survival rate," Mr Little said.

"I can't recall any single piece of research or advice that has been so significant and practically achievable," Mr Dickinson said.

Station owner Gordon Dickinson said that by following the data and recommendations from Lifetime Wool he has in one season been able to lift performance by an average of 30 per cent or 4,000 lambs.

"Without even calculating the lifetime value of the better progeny, this has delivered incremental value of \$200,000 to our business," Mr Dickinson said.

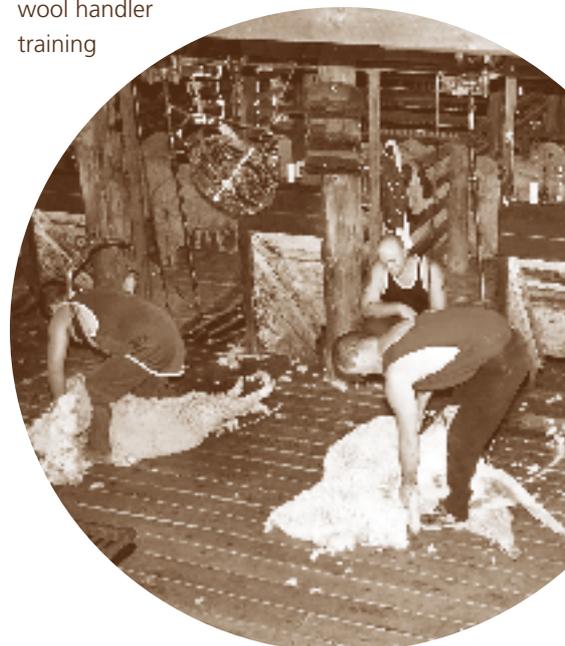
The Lifetime Wool project will release 'best-bet' ewe nutrition guidelines for optimising the lifetime wool production from Merinos in the latter half of 2005.

AWI began funding six companies to develop an upright posture shearing platform (UPSP) that is efficient and safer than conventional shearing. The first two of the four remaining UPSPs under development began extensive field trials mid 2005 with the aim of at least one to be commercially available by the end of 2005.

In addition, we have an 'add on' technology program to achieve small but important improvements to shearing sheds and shearing gear by improving productivity and safety. During 2004/05, the Deadman switch which automatically stops dropped handpieces – a technology that was developed in the Shear Express project – was licensed to Swiss shearing equipment manufacturer Heiniger.

#### Shearer training

In response to woolgrower and industry concern about shortages of appropriately skilled labour in the shearing industry, AWI invested funds to implement a national shearer and wool handler training





program. Under the instruction of some of Australia's best shearers, the on-the-job training is designed to refine techniques and skills, improving efficiency, work quality and occupational health and safety. In addition to shearer training, experienced wool classers and handlers are coaching wool handlers. A range of training delivery methods will be used to up-skill the existing wool harvesting workforce, including regional coaching for shearers and wool handlers, novice and improver schools for shearers and wool handlers, and industry workshops. During 2004/05, 11 training providers were contracted to provide 208 weeks of regional coaching. In-shed training was delivered to 1,750 shearers and 778 wool handlers in five states. AWI funds were also used to train 215 learners through 15 novice and improver training workshops held in NSW, Victoria and Tasmania.

**Top:** AWI's shearing strategy includes new and "add-on" shearing technologies.

**Left:** AWI has implemented a national shearer and wool handler training program.

## Bestprac

Wool Production

### CASE STUDY



Bestprac is a benchmarking and continuous improvement program designed specifically to support sheep and wool producers in the pastoral zones of Queensland, NSW, SA and WA. Funded by AWI and MLA, the program grew during 2004/05 to involve 287 growers in 31 groups. Evaluation results during the year indicate that:

- 7 per cent of rangelands producers were involved in the program;
  - 79 per cent of participants made changes to their practices as a result of involvement in the program; and
  - 13 per cent of participants reported substantial profit gains as a result of participation.
- South Australian woolgrowers Geoff and Val Power said involvement in Bestprac has helped lift profits on their 6,700 hectare Flinders Ranges farming operation. As a result of ideas developed through Bestprac, the Powers have been able to improve profitability by 10 per cent and farm turnover by 80 per cent.

"From battling to make a profit, and some years not making it, we are now making a very good profit every year and I believe Bestprac has played a big hand in that," Mr Power said.

**Top:** Involvement in Bestprac has helped Geoff and Val Power lift their profits.

### Education and Adoption Strengthening on-farm delivery arrangements

The national network of state woolgrower groups was finalised with the launch of new programs in NSW ('Wool4Wealth'), Queensland ('Leading Sheep') and WA ('The Sheep's Back'). These grower groups will focus on improving the facets of wool and sheep meat producing businesses in each particular state that are most important for profitability and sustainability. The groups help in increasing the uptake of outcomes of AWI projects by woolgrowers. Commercial companies are being used to deliver the programs and participating woolgrowers contribute towards costs. At the end of 2004/05, there were 3,105 woolgrowers involved in 155 groups across Australia. A national target of 4,500 woolgrowers participating in these groups is being approached.

### Scholarships and career support

AWI directly funded 20 new scholarships for undergraduate and postgraduate scholars to pursue ongoing education and research in wool and wool science, with a further 35 students receiving grants for training, conference travel and work placements.

AWI also provided scholarship and career support to a further 27 undergraduate and postgraduate scholars through its contribution to the Australian Sheep CRC's education program.

### Development of technical information and learning materials

The Future-Fleece CD-ROM was rebuilt into a comprehensive schools resource, ready for release in September 2005. Aimed primarily at year 11–12 students and their teachers, the CD covers all aspects of the wool pipeline and provides activities aligned with each state's school curriculum framework.



### Future goals

#### Key future goals of the portfolio include:

- Provide woolgrowers in the high rainfall and sheep/cereal zone with the means to increase pasture productivity by 20 per cent, and woolgrowers in the pastoral zone with new tools and skills to reduce their cost of production by 5 per cent.
- Development of a cost effective alternative to surgical mulesing for breech blowfly strike control.
- Have Sheep Genetics Australia established by 2006 as a nationally consistent across-flock genetic benchmarking system for commercial and seedstock producers.
- Establish wool harvesting as a highly efficient and highly regarded 21st century farm activity.
- Ensure that the AWI project outputs are adopted by the target sector of the industry and that the monitored rate of adoption improves over time.



textile technology



# textile technology

The aim of AWI's Textile Technology portfolio is to work in the science arena with organisations and companies to develop new and improved wool products and market their benefits to designers, manufacturers and retailers.

## Key outcomes and achievements

### Textile product development themes

AWI developed a series of textile product development themes (marketing platforms) to help guide R&D into areas of highest market opportunity. The themes describe the market opportunity from the consumer's perspective. R&D projects are then developed to meet the market need. Marketing materials (consumer research, branding opportunities, technical packages) are prepared for each theme, to help designers, retailers and consumers see the benefits of the products.

The textile product development themes provide a vehicle for transferring research from the laboratory to the marketplace. They do this by pulling together AWI projects and packaging existing and new technologies that offer significant product performance improvements. Equally, it is also intended that the themes provide science and research organisations with guidance on what sort of R&D is needed to create products sought after by consumers.

The textile product development themes are being used to:

- target global fashion designers and retailers with appealing and innovative apparel concepts – this is an opportunity for Merino wool to increase its presence in the fashion apparel markets;
- rebuild market share in several traditional product markets, such as corporate uniforms, bedding, active wear, wool/cotton blends, winter warmth, and baby and infant wear; and
- help Australian Merino fibre enter new markets where it has not been used before, such as medical textiles, protective clothing and electrostatic wool filters.

Some of the product development themes are:

- **Merino Super Soft** – new super soft Merino knitwear.
- **Total Easy Care** – easy care clothes that can be machine washed at home and tumble dried with minimum ironing required.
- **Summer in the City** – ultra lightweight tailoring for both men's and ladies' markets.
- **Active Performance** – for the action sports and streetwear markets.
- **Natural Healing** – for the medical textiles market.



- Textile product development themes were developed to explain the benefits of wool products to designers, manufacturers and retailers, and provide a vehicle for transferring research from the laboratory to the marketplace.
- Fashion garments, made from a yarn developed as part of AWI's 'Super Soft' textile product development theme, were developed by young women's fashion label Kookai ready for launch in July 2005.
- Six new TRANSseasonal wool and wool blend fabrics – soft, luxurious yet durable – were developed by AWI in conjunction with companies around the world, and will be marketed in the northern hemisphere in late summer/early autumn.
- The best qualities of Australian Merino wool were showcased to the world when AWI joined forces with celebrated Australian fashion designer Akira Isogawa to take a new featherweight wool fabric to the Paris fashion week and Mercedes fashion week.
- With the help of AWI, another successful designer, Josephine Nathan, participated in Hong Kong's fashion week and the World Fashion Boutique.
- New markets for wool where bright, clean and pastel shades are essential are a step closer after CSIRO researchers made an important breakthrough in understanding the mechanisms of why photoyellowing of wool occurs.

### Merino Super Soft wool fabric

AWI approached young women's fashion label Kookai with the idea that we could improve the handle and touch of its knitwear, without changing the price, by using wool with new fibre specifications to make a soft, no prickle yarn. The yarn for the fabric was sourced as part of AWI's 'Super Soft' textile product development theme that aims to redefine wool as soft, gentle, feminine and comfortable for the skin.

The fabric is made of 18.2 micron Australian Merino wool with long fibre length, sourced from Gostwyk Station in New England, NSW. The long fibre reduces the chance of pilling and allowed the twist in the yarn to be slackened by 10 per cent, which made softer fabric. Sudwolle GmbH & Co KG in Shanghai produced the yarn, which has been knitted by ABMT Textile Pty Ltd in Melbourne. All of Kookai's Australian stores have been offering next-to-skin knitwear garments made from the new yarn.

### TRANSseasonal wool fabrics

Six new TRANSseasonal wool and wool blend fabrics were developed using a number of textile mills around the world – a joint AWI/Woolmark project. The fabrics are soft, luxurious yet durable. The developed fabrics are:

- a wool/silk blend made by Macquarie Textiles in Australia;
- two wool/linen blends made by Ulster Weavers in Northern Ireland;
- a wool/cashmere blend made by Polgat in Israel;

- a wool/lycra blend made by Clissold in the UK; and
- a wool crepe made by Parkland in the UK.

Five out of these six fabrics were sold commercially by the mills in large quantities, far exceeding the modest project goal. In addition, the developed fabrics were used by four top UK fashion designers to create garments for this year's autumn season in the UK.

### Total easy care knitwear into US

AWI and The Woolmark Company joined forces in a project to get more Americans wearing Australian Merino knitwear. The project is using dedicated supply chains to meet specific US retailer and consumer expectations for total easy care (TEC) knitwear that can be machine washed and tumble-dried, and retain appearance and softness.

It is expected that the first knitwear garments produced through the project will retail through LL Bean and Talbot in the US in their 2005 autumn/winter. The first order received from these companies equates to 70,000 pieces.

### Garment treatment for easy care wovens

Together with the Woolmark Company, we have developed an improved garment-based easy-care technology for producing wool trousers that meet machine wash, tumble dry and minimum iron performance (TEC) specifications. The technology has been commercially proven in trials at TAL Apparel, a large garment manufacturer in Thailand. TAL will

## Developing whiter, brighter and more light-stable wools

Textile Technology

### CASE STUDY



During 2004/05, CSIRO researchers participating in our basic science program made an important breakthrough in understanding the mechanisms of why photoyellowing of wool occurs. They have now identified three key processes in wool photoyellowing, including a specific reactive form of oxygen, which means they can now look at ways of stopping or interrupting the process.

The development of whiter, brighter and more light-stable wools will allow the creation of improved dyeing regimes for wool. This should enable wool fabrics to be dyed in brighter, rich colours. Such technology will therefore substantially open up new markets for wool where bright, clean and pastel shades are essential.

CSIRO Textile and Fibre Technology Coloration Project Leader Dr Keith Millington said he hoped the work being funded by AWI would help fast track other research and open up new markets for wool.

“The new colouration projects are about making wool fabrics available in bright, vivid colours that are not traditionally associated with wool,” Dr Millington said.

manufacture TEC wool trousers using the improved technology and has made a large investment in new plant equipment to expand manufacturing capacity for TEC wool trousers.

The initial target market for commercialisation is Germany where the concept of machine washable wool trousers is well established and the new product should be well received by retailers and consumers. Sample garments suitable for the German market are being produced for presentation to retailers and branding for promotion and garment labelling is being developed.

#### **Woolfleece™**

Interest is gaining pace from manufacturers in the Woolfleece™ fabric – the bi-layer structural blend of knitted fibres where the wool is next to the skin and the polyester is on the outside. This high quality blend containing up to 35 per cent wool of around 22 micron fabric was developed in conjunction with The Woolmark Company.

The first order of 100,000 metres was received from a large Japanese retailer which is converting the fabric into 320,000 gloves. We continue to pursue a plan to transfer this technology with other manufacturers in Asia.

#### **Murata Vortex Spinning system**

The adaption of the high-speed Murata Vortex Spinning (MVS) machine to short staple wool and wool blends continued apace this year with five assessments by industry partners of the MVS machine successfully completed. With faster spinning speeds and less mill



yarns in the Asia Pacific zone, in Shanghai in September.

### **Low temperature scouring to help top makers**

With the aim of increasing top yield for processors, we undertook research this year into minimising fibre entanglements during scouring. We successfully completed the development

of a low temperature detergent and discussions are underway with a commercial partner. By operating the scour at lower temperatures, reduced entanglement during scouring occurs. With fewer fibre entanglements to remove, there is less fibre breakage and hence fewer noils and a longer top length. Another benefit is a 20 per cent saving in energy costs.

### **Global Innovators Wool Pipeline Tour**

Nine up-and-coming young fashion and design students from Europe were involved in an intensive two-week tour of the Australian wool industry in October 2004. The AWI Global Innovators Wool Pipeline Tour showcased Australian Merino wool and provided an insight into the production of the fibre.

The young designers got an insight into the industry from wool breeding and genetics, through to the selling system, processing and finished textiles and fashions. It laid the foundations for loyalty to Australian Merino wool among these future top global fashion and textile designers.

preparation steps, the MVS promises greater productivity for less cost. For wool, the MVS is up to 20 times faster than the traditional worsted wool spinning machine. Other developments this year included a successful commercial trial in Hong Kong and the undertaking of initial planning for the technology transfer to China and Indonesia.

### **CAWIN project producing fancy yarns**

There have been promising results this year from an AWI-funded project into the development of 'fancy yarns' for the Chinese market. The work, being carried out by Xi'an University as part of the China Australian Wool Innovation Network (CAWIN) initiative, involved the design of a modified mechanical spinning device to create the wool blend yarns. Fabrics and garments have been made and talks have begun with companies in China to trial the spinning device, the yarns and the fabrics. The yarns will be exhibited at SpinExpo, a trade fair specialising in textile fibres and



**Top left:** AWI investment has resulted in the commercialisation of new super soft wool knitwear.

**Top:** A project with Chinese universities has resulted in 'fancy yarns'.

**Above:** The Australian Wool Fashion Awards promotes Australian wool to a wide audience.

### The Australian Wool Fashion Awards

AWI sponsored the 2005 Australian Wool Fashion Awards which were held in March in Armidale. This long-standing and prestigious fashion competition is an important vehicle to promote Australian wool to a widening audience of new consumers, fashion buyers, designers and processors. The collection was also showcased to delegates at this year's IWTO Congress.

#### Future goals

##### The future goals of the portfolio are to:

- develop a wide range of new products for Australian Merino fibre in the fashion apparel markets;
- develop products for Australian Merino fibre in the sports, active wear, protective clothing, medical and filtration markets;
- increase demand for Australian Merino by developing a more diverse, cost effective product base from Merino fibre, and to broadly and effectively transfer the outcomes to industry; and
- develop the new fundamental knowledge about the surface, structural and chemical properties of wool fibres.

### Working with leading designers

Textile Technology

## CASE STUDY



AWI joined forces with celebrated Australian fashion designer Akira Isogawa to take a new featherweight wool fabric to Paris fashion week in March 2005 and Mercedes Australian Fashion Week.

The 100 per cent Australian Merino fabric was developed in conjunction with AWI and Sydney-based knitter DPK, and featured in Akira's autumn/winter ready-to-wear collection.

Working with leading designers such as Akira Isogawa is important to get innovative wool fabrics into the market and showcase the best qualities of Australian Merino wool to the world. Mr Isogawa said AWI welcomed the challenge he presented to them. "They embraced my idea to develop ultra-fine, ultra-soft, transeasonal wool products that I can use for both my autumn/winter and spring/summer collections," Mr Isogawa said.

With the help of AWI, another successful designer, Josephine Nathan, participated in Hong Kong's fashion week and the World Fashion Boutique.

Ms Nathan of woolliwoolli designs took 40 of her Australian Merino creations to the event, using the opportunity to both showcase her talent and get a first hand feel for the needs of the growing Asian fashion market.

Ms Nathan said that it was evident from everyone she spoke to at the events that Asia is hungry for western design.

"Australian fashion is just so popular at present. In fact, I was introduced to buyers from Bangkok who specifically attended the events to scope out Australian fashion designers," Ms Nathan said

trade development



# trade development

During 2004/05, AWI's Trade Development portfolio placed a priority on evolving into the commercialisation hub of AWI, reflecting AWI's new market focused priorities.

The portfolio now provides the vital link between the research and development chain and the market, commercialising wool innovations to build consumer demand for Australian Merino wool.

The portfolio continues to also play a key role in working with industry and government to increase market access into Australian wool/textile importing countries, and providing shareholders and industry with the latest market information.

## Key outcomes and achievements

### Market development

During 2004/05, we developed and began implementing a business to business strategy to establish R&D partnerships with leading textile market leaders and trend setters around the world in both the manufacturing and brand sectors.

We are working with over 50 companies in this manner. Examples of work undertaken during 2004/05 include:

- **Heilan Group:** An agreement with major Chinese menswear manufacturer the Heilan Group to produce washable wool blend suits and sell them into the Chinese domestic market (see case study on page 40).
- **Nanshan Group:** An agreement with the Nanshan Group – one of the biggest worsted fabric producers in China – to get lightweight machine washable wool fabric for shirts, trousers and jackets to market. Nanshan plans to make two million business shirts, plus two million trousers and 500,000 jackets, which would mean an extra 1.7 million kilograms of wool being sold to China over the next three years.
- **Novel Group:** One of the world's major spinners and knitters, the Hong Kong-based Novel Group, is working with AWI in setting up a supply chain to develop a Softwool product range (see case study on page 42).

- **Other Chinese companies:** Other market leaders in China that we began working with in a range of innovation and product marketing projects include Xiano, China's biggest spinner for knitting; vertically integrated apparel manufacturer Shandong Ruyi, and Esquel, a major apparel manufacturer and exporter.



- **Texmaco:** Indonesia's largest synthetic fabric and garment manufacturer, Texmaco, is working with AWI to develop a new wool/polyester thermal fleece fabric for the outdoor activewear apparel market. Texmaco's client list includes brand leaders such as North Face, Patagonia, Nike and Adidas. The project has a sales target of 500,000–750,000 metres in its first two years.

- **Japan:** In Japan, we are working to regain the market share for easy care knitwear, by improved yarn and apparel development with spinner and knitter Toa Boshoku, and commercialisation through retailer Ito Yokado – the second largest retail conglomerate in Japan. This project is expected to use 205,000kg of Australian Merino wool by the end of 2007.

**Development and implementation of China strategy**

A detailed consumer survey of the Chinese domestic retail market was completed. The survey provided detailed information on the Chinese fashion apparel consumer including textile buying trends and sentiment towards woollen apparel.

The survey segmented the Chinese domestic market into four key sectors in which opportunities to build domestic demand for Australian Merino were clearly apparent: menswear, womenswear, activewear and knitwear. As a result, recommendations for action in China were defined and provided guidance for AWI in generating innovative projects with key manufacturers and retailers.

**Ensuring high quality deliveries of wool to China**

A survey of 17 Chinese processing mills was carried out to understand more about the quality standards of Australian greasy wool deliveries. Using questionnaire and survey methodology endorsed by Australian Wool Industry Services (AWIS), we identified the incidence of ‘problem’ deliveries from the mills’ perspective

and identified action that the wool textile industry in both countries could take to ensure the image of Australian wool and Australian woolgrowers is of the highest calibre.

**AWI in Shanghai**

In a strategically significant move, we expanded our presence in China by moving our principal operations to the fashion hub of Shanghai and employing account managers to work with commercial partners. The China office which contains seven staff is engaging the Chinese industry with trade shows, industry newsletters, and ‘whole of supply chain’ training programs.

The new office brings AWI closer to China’s burgeoning fashion industry and enables us to engage directly with Chinese domestic retail brands.



**Above:** The AWI China office is engaging directly with key textile leaders in China.

HIGHLIGHTS

- By expanding the company’s presence in China and establishing an office in New York, AWI placed itself in a position to implement its market development strategy of introducing the latest wool innovations directly to large international brand and retail partners.
- An R&D partnership was established between AWI and major Chinese menswear manufacturer Heilan with a target of 100,000 machine washable wool blend suits to be produced annually within two years.
- A new wool/polyester thermal fleece bonded fabric for the outdoor activewear apparel market is being developed, due to an R&D partnership with Texmaco – Indonesia’s largest synthetic fabric and garment manufacturer.
- A detailed consumer survey of the Chinese domestic retail market was completed to help AWI generate wool products with key manufactures and retailers.
- Increased market access for Australian wool into China was brought a step closer by the completion of a scoping study regarding the effects on the wool industry of a free trade agreement between Australia and China.
- Australian woolgrowers were provided with the means to independently assess prices and trends for their wool, following the launch of the Woolcheque website.

## Machine washable wool blend suits into Chinese market

Trade Development

### CASE STUDY



In 2004/05, AWI engaged with one of the largest menswear manufacturers in China, the Heilan Group, to produce and retail machine washable wool blend suits.

AWI facilitated the transfer of technical 'know how' to Heilan with the help of Berkeley Apparel which, by way of a previous co-investment with AWI, had created and designed the machine washable wool blend fabric suitable for suits.

Heilan established a project team of technical staff and management to oversee and trial the machine washable technology resulting in the

adoption of a 50-50 wool-polyester fabric for the total easy care suit.

Heilan is a key enterprise in the Chinese wool industry with a yearly output capacity of three million suits. Heilan has 250 retail shops across China with a plan to open many more by 2006, selling 10 million suits.

Heilan is aiming to sell up to 100,000 of the new machine washable wool blend suits per year by the end of 2007.

#### AWI in New York

We established an office in New York – the fashion centre of the US, which has the head offices of over 15 global apparel retailers – to directly engage with US domestic and international brand and retail partners and introduce them to the latest wool innovations.

#### Trade negotiations

During the initial stages of free trade agreement (FTA) negotiations between Australia and China, we worked to ensure the wool industry's interests were supported in the development of an agreement between the two countries.

AWI established an industry wide trade advisory group to coordinate Australian wool's representations to government throughout the process of negotiations.

AWI commissioned analysis of the China/Australia trading relationship to assist the Australian Department of Foreign Affairs and Trade in negotiations. We detailed the obstacles to trade between China and Australia, analysing the cost, to both Australian woolgrowers and Chinese industry, of Chinese tariff and non tariff trade barriers and their limiting impact on market growth.

Additionally, we provided analysis which explored the complementary nature of Australian and Chinese wool. This report indicated the lack of competition between the end uses of the two fibres.

Both reports were presented to the Australian government during the FTA scoping study and resulted in a favourable presentation of the Australia – China trading relationship.

### Australian Merino internet portal

We began work on an Australian Merino internet portal which will provide commercial partners not only with detailed information on AWI's textile product development themes (marketing platforms) and wool innovations, but also key point-of-sale materials (swing tags etc) to be used by the partners to communicate the superior qualities of Australian Merino wool to consumers at retail.

### Providing market information to woolgrowers

The Woolcheque™ website was launched in June 2005 to help Australian woolgrowers independently assess prices and trends for their wool and place them in a more knowledgeable position for how and when to market their clip. For more information, visit [www.woolcheque.com.au](http://www.woolcheque.com.au).



Strategic and grower market intelligence was provided to growers through *Monthly Market Briefing*, the annual market analysis publications *Review and Outlook for Fine Wool* and *Review and Outlook for Mid-micron Wool*, and market and trade news published weekly on the AWI website.

AWI funds an independent committee to provide consensus-based and authoritative Australian Wool Production Forecast Reports four times a year.

### Sheep's Back to Mill 2003/04

The 2003/04 edition of *Sheep's Back to Mill* was produced and made available on the AWI website. This edition highlighted that the combination of lower annual wool production and declining market prices during the 2003/04 season resulted in an increase in the proportion of wool industry revenue which covered harvesting, marketing and distribution costs. Total industry costs for harvesting, marketing and distribution are estimated at almost 42 per cent of gross receipts (in nominal terms).

### Review of wool marketing and risk management options

We commissioned a review of current and potential wool marketing and risk management options available to Australian woolgrowers and pipeline participants through to early stage processing. The report also includes recommendations to AWI in regards to potential AWI R&D investment to address market failures.

### Minimising dark and medullated fibre contamination

As a critical element in the national response to dark and medullated fibre (DMF) contamination of Merino wool, AWI and CSIRO have developed a low cost, automated pre-sale test of DMF contamination in core wool samples. AWTA has already adopted elements of the new system, reducing the cost of DMF testing from around \$160

per sample to \$39.70 per sample. The system is being installed at AWTA for commercial trialling, and AWI is providing resources to CSIRO to fast-track this process. It will assist the Australian wool industry to maintain its enviable reputation as a producer of high quality, low risk wool.

We presented preliminary results from a global survey of DMF contamination to international wool processors at an International Wool Textile Organisation (IWTO) meeting in Shanghai and at the IWTO Congress in Hobart. There was endorsement from attendees for the way Australian farmers are managing the issue at every step along the wool pipeline. Based on analysis of mills around the globe that use Australian wool, there was no increase in the levels of dark fibre contamination over the past five years. The final report will be ready by September 2005.

**Left:** The Woolcheque website helps Australian woolgrowers independently assess prices and trends for their wool.

### Future goals

#### Key future goals of the portfolio include:

- Work with brand and manufacturing partners in each major market – China, Europe, USA, Japan – and emerging markets, to generate greater demand for woollen apparel at retail.
- The establishment of a European presence for AWI to interface with key retail, brand and fashion leaders.
- Push for global free trade of wool, and successfully negotiate a free trade agreement that sees substantial liberalisation of the Australian wool trade to China.
- Development and collation of market information so that both AWI and its shareholders can make effective production, trading and research decisions.

## Working with the world's major textile partners to create a Softwool range

Trade Development

### CASE STUDY



In 2004/05, AWI was approached by the Novel Group – one of the world's largest spinners and knitters – to assist in setting up a supply chain for the development of a 'Softwool' product range.

The project specifically sought to transfer existing Basolan technology, used for worsted knitwear yarns, to the woollen system by treating post scoured/carbonised loose stock wool. The wool treatment process softens the wool fibre and makes it more consumer friendly for a range of fabric uses.

During the year, we worked with the Novel Group to develop the Softwool product range with the aim to commercialise the range into the market by late 2005. The project aims to generate an increase in demand of two million kilograms of 18.5–20.5 micron wool by 2007.

**Above:** The development of the Softwool product range should increase the demand for Australian wool

corporate affairs



# corporate affairs

The aim of AWI's Corporate Affairs portfolio is to deliver effective communication between AWI and its key stakeholders. The Corporate Affairs portfolio seeks to inform and influence:

- woolgrowers, so they better understand the value of what AWI does and are aware of R&D outcomes;
- Government, so it recognises the value of R&D for the wool industry; and
- users of Australian wool (such as manufacturers and retailers), so they understand the benefits of Australian wool and the value of new technologies and innovations.

## Key outcomes and achievements

### Communicating face to face

AWI hosted seven major forums in 2004/05 that were attended by more than 1,700 woolgrowers and industry representatives:

- 'Pathways to Profit' forums at Dubbo NSW, Armidale NSW and Naracoorte SA.
- Two joint AWI/MLA 'Making more from Merinos' forums in Northam, WA and Katanning, WA.
- A woolgrower forum as part of the IWTO Congress in Hobart, Tasmania.
- Woolgrower forum prior to the AGM in Ballarat, Victoria.

AWI staff or Board members also presented at more than 60 other industry forums and events around Australia during 2004/05. Product suitcases showcasing new AWI product developments and/or AWI display stands were on show at 34 industry events. The AWI Innovation Showcase was visited by nearly 4,000 people at eight industry events before it ceased operation in October 2004 and was sold due to concerns about the operational costs. Resources were instead focused on forums. Twice during the year, industry organisation representatives and state farmer bodies provided their input on industry issues directly to key AWI staff and senior management at information exchanges held at AWI Sydney offices.

## AWI helpline – easy access to information

The average number of calls to the tollfree AWI helpline increased by 94 per cent during the year, up from 156 calls per month to 303 calls per month. The helpline was used for general information about AWI, company projects and programs, event registration and for the TIMERITE™ service. The AWI helpline started providing the TIMERITE™ optimum spray date to woolgrowers in July 2004 and this accounted for about a third of all calls to the helpline during the year.



## HIGHLIGHTS

- Average daily visitor numbers to the AWI website [www.wool.com.au](http://www.wool.com.au) increased 42 per cent during the year to an average of 1,097 visitors per day.
- More than 1,700 woolgrowers and industry representatives from across Australia participated in AWI forums during the year.
- Woolgrowers, industry and the public were able to access information on the outcomes of AWI projects by way of 24 new or updated AWI fact sheets covering all key program areas.
- The effect of the campaign by extremist animal rights groups against the Australian wool industry was largely minimised, with AWI taking a leading role in the industry's response to the threat.

**Above:** The AWI website received more than 5.5 million hits during the year.



### Getting the message out through rural, metropolitan and regional media

Media is an important communication tool for AWI, and media releases, advertisements and television were used to gain widespread coverage for AWI projects and initiatives. There was wide coverage in the rural and regional media, as well as in the metropolitan media, and international textile and trade media. AWI research and innovation initiatives were also featured in the *On The Land* rural TV show broadcast across Australia.

### Research and development publications

Publications were distributed at industry events and most were available electronically on the AWI website. Publications were also made available on request from the AWI helpline on 1800 070 099. AWI's flagship publication *Beyond the Bale* was published six times during 2004/05 and distributed to shareholders and stakeholders. A total of 24 new or updated fact sheets were produced during the

year highlighting the outcomes and benefits for woolgrowers of a range of AWI projects such as *Woolcheque*, *Woolfleece* and *Battling the blowfly*. The brochures and reports listed in Appendix C were also produced. Shareholders were sent three letters from the AWI Chairman during 2004/05.

### Wool industry response to extremist animal rights groups

AWI took a leading role in the Wool and Sheep Industry Taskforce, which was formed to respond to the campaign by extremist animal rights groups against the Australian wool industry.

During 2004/05, the Taskforce vigorously built up and applied a global strategy to ensure a positive outcome for the Australian industry. This strategy included:

- public support from key politicians and ministers, and key bodies such as the Royal Society for the Prevention of Cruelty to Animals and the Australian Veterinary Association;

- providing information to the media, and the development and launch of the [www.woolisbest.com](http://www.woolisbest.com) website;
- face-to-face meetings and direct communications with retailers, processors, manufacturers and others in the wool pipeline;
- industry agreement to fast-track a number of R&D programs that will enable an end to mulesing by 2010;
- legal action intended to restrain extremist animal rights groups from threatening clothing retailers; and
- a marketing program to inform retailers in the US and UK about Australian wool.

### Online and web communications

A major redevelopment of the AWI website [www.wool.com.au](http://www.wool.com.au) was undertaken during 2004/05 to deliver easier navigation, more content and a refreshed look and feel. The new site was launched in April 2005. Visitor numbers to the AWI website increased 42 per cent during the year to an average of 1,097 visits per day. More than 5.5 million hits to the site were recorded during the year. Subscriptions to AWI e-newsletters increased 56 per cent during the year to 5,133. Several web-based decision support tools were also developed and launched by AWI during 2004/05 including *TIMERITE™* ([www.timerite.com.au](http://www.timerite.com.au)), *Wormboss* ([www.wormboss.com.au](http://www.wormboss.com.au)), *Woolcheque* ([www.woolcheque.com.au](http://www.woolcheque.com.au)) and *Wool on the Web* ([www.woolontheweb.com.au](http://www.woolontheweb.com.au)).

**Top:** Woolgrowers are informed about new technologies during hands on demonstrations at AWI forums.

Future goals

**The future goals of the portfolio include:**

- Ensure industry and government stakeholders continue to regard AWI as transparent, accountable and delivering value on R&D investment.
- Establish AWI's credibility as the global innovator for the Merino apparel textiles industry in China, the US and Europe.
- Increase the proportion of shareholders and stakeholders in Australia who have a fair to good understanding of AWI's activities and role in the wool industry, and hold the company in good regard.



**AWI 'Pathways to Profit' forums**

Corporate Affairs

CASE STUDY



Producers came out in force from across many regions of NSW, southern Queensland, South Australia and western Victoria to attend three 'Pathways to Profit' forums held by AWI last year.

Nearly 700 producers attended the forums at Naracoorte, SA and at Dubbo and Armidale, NSW, to get a first-hand account of the latest in wool research, development and innovation designed to improve on-farm productivity and build demand for Australian Merino wool.

Mat Westgarth from 'Tewkesbury' at Warren, NSW, attended the Armidale forum and was impressed with the information and resources provided.

"It was good to see the scope of research that is going on at the moment in the wool industry... I thought the pastures and genetics information was great and meeting

woolgrowers who are involved in the research made it much more relevant to people involved," Mr Westgarth said.

Rob Hamilton from 'Paralands' at Millicent, South Australia, attended the Naracoorte forum and was particularly interested to hear about new wool product innovations and marketing information presented.

"To see the end product being thought of, and hearing how AWI is planning to expand the use of wool, is great. It was encouraging to hear these people have such good ideas for driving demand and use of the products."

An overwhelming 97 per cent of producers who completed feedback surveys at the forums said they would attend another forum.

**Above:** Twenty four new or updated fact sheets about AWI projects were issued this year.

**Top:** Events held by AWI raise awareness and understanding of AWI activities and project outcomes.

good business



# managing our R&D strategically

## Commercialising R&D project outcomes

AWI has updated some of its R&D programs to focus on delivering the outcomes of R&D projects to market. This has been needed because:

- R&D projects started over the past two years are reaching completion and there is a need to facilitate the commercialisation of the project outcomes; and
- a greater emphasis is now being placed on bringing research organisations and commercial companies together to deliver faster outcomes.

The revision most significantly affects AWI's Textile Technology and Trade Development portfolios. Additional funds and resources are being provided to the two portfolios' investment plans, to help bring together research organisations and commercial companies on projects to get wool products into the northern hemisphere consumer markets.

The aim is primarily to increase the global demand for Australian Merino fibre.

AWI is developing new markets for wool by forming business to business relationships with key market leaders in the textile and clothing sectors. It is through collaborating with businesses whose profitability relies on their ability to understand and cater to the demands of the consumer market, that AWI can both target its R&D and successfully commercialise its innovations into key market sectors.

More than \$10 million in product marketing initiatives for Australian

Merino wool was approved by the AWI Board during the 2004/05 financial year. This is aimed at getting innovative products and improvements in the performance of Merino wool to retailers and designers, and includes everything from the development of new fabrics to point-of-sale marketing materials.

AWI's Wool Production portfolio is the most mature of the portfolios and the focus of its programs remains largely unchanged. The portfolio continues to bring together commercial companies and research organisations to create new on-farm solutions that can be adopted by woolgrowers. It remains important for woolgrowers to embrace innovation and become involved in AWI projects where they can.

## Collaboration with other R&D organisations

Forming relationships and collaborating (financially and intellectually) with other R&D organisations on projects continued this year, to ensure we deliver the best return for Australian woolgrowers and the global wool industry.

During 2004/05, AWI was involved in collaborations with research bodies including rural research and development corporations (RDCs), government departments of agriculture, CSIRO, universities and commercial partners.

*Grain & Graze*, a research and extension program for mixed farms in southern Australia, was a major new collaboration established in 2004/05 with Meat & Livestock Australia (MLA), Grains Research and

## The revised set of AWI programs

The following programs will guide AWI investment into the future:

### Textiles

- Fundamental Wool Science
- The Processing of Merino Fibre
- Merino Fibre in Fashion Markets
- Merino as a Performance Fibre

### Trade Development

- Market Information
- Market Development
- Trade Access

### Wool Production

- Profitable Grazing for Wool Sheep
- Natural Resource Management
- Animal Health and Welfare
- Molecular Genetics
- Applied Genetics and Wool Quality
- Wool Harvesting
- Education and Adoption

### Corporate Affairs

- Communications – Corporate
- Communications – Fashion/Retail/Trade
- Industry Affairs – Producers/Processors/Government

Further details are contained in the 2005 Update to the AWI Strategic Plan 2004-2009, which is available on the AWI website, or by phoning the AWI helpline on 1800 070 099.

Development Corporation (GRDC) and Land and Water Australia (LWA). The program is unique in that it is the only program that directly addresses the many relationships between crops, pastures, animals and natural resources. For more information visit the *Grain & Graze* website at [www.grainandgraze.com.au](http://www.grainandgraze.com.au).

In December last year, Meat and Wool New Zealand joined Australia's push to make shearing and wool handling easier, safer and more efficient by announcing a contribution of \$1.5 million to AWI's Wool Harvesting program.

During the year, AWI contributed to the establishment of the Invasive Animal CRC which replaced the Pest Animal Control CRC on 1 July 2005. AWI will contribute funds to the CRC to continue R&D on a new toxin for the control of feral dogs and foxes.

AWI is collaborating with numerous organisations on projects to combat flystrike, such as the major project with the University of Adelaide to find a non-surgical alternative to mulesing. Projects include the blowfly genome project with the University of Melbourne and Massey University (NZ), biocontrol methods for blowfly control with the Department of Primary Industries Queensland, and integrated pest management with the University of New England, Department of Agriculture Western Australia, the University of Melbourne and the Department of Primary Industries Queensland. For further details, see AWI's *Battling the blowfly* Insight factsheet.

AWI partnered with MLA during the year to conduct two 'Making more from Merinos' forums in WA – attended by over 485 sheep producers and woolgrowers.

Existing collaborations in which AWI made a significant co-investment during the year also included:

- the *Sheep Genomics* program, with MLA and nine other partners aiming to increase productivity in the sheep industry;
- *Sheep Genetics Australia* (formerly known as the Australian Sheep Genetics Database) with MLA which will allow breeders to achieve higher rates of genetic gain in their flocks;
- the *Land, Water & Wool* natural resource management program with LWA;
- The development of new pasture legumes through *National Annual Pasture Legume Improvement Program* (NAPLIP), with the GRDC, CSIRO, five state departments of agriculture (Qld, NSW, Vic, SA and WA), and the Universities of Adelaide and WA; and
- the development and launch of *WormBoss* with the Australian Sheep CRC, and its distribution by Elders, Landmark and CRT, to help producers control sheep worms and drench resistant worms.

In the textiles area, AWI has been working with many companies around the world to increase the demand for wool. The Woolmark Company (TWC) is often a key participant in AWI projects and received \$4.5 million in funding from AWI during 2004/05 on

a range of projects to help get wool to the world.

TWC also provided market intelligence services to AWI such as the *Review and Outlook for Fine Wool* and *Mid-Micron and Broader Wool*, which are available free to AWI shareholders.

AWI also collaborated in 2004/05 with scientists, researchers and companies in fundamental wool science and new wool processing technologies to improve efficiency and the quality of the end product. These organisations included CSIRO, Canesis in New Zealand and the German wool research institute Deutsches Wollforschungsinstitut (DWI). Research in fundamental wool science underpins a whole range of technical developments in wool processing and textile design.

The China Australian Wool Innovation Network (CAWIN) initiative established by AWI and Deakin University to build wool textile technical expertise in China continued in 2004/05 with activities including visits to Australia by delegates from China.

### Intellectual property

Intellectual property (IP) generated through AWI-funded research and development is an important company asset, but revenue from IP is not the primary objective for AWI. AWI's primary objective is to apply its IP for the maximum benefit of Australian woolgrowers, which requires its rapid and widespread adoption or commercialisation.

When projects do generate revenue, AWI expects to receive royalties in

proportion to its investment. Royalty income contributed \$569,000 to AWI during 2004/05.

During 2004/05, AWI acting solely or jointly with various research partners, lodged or acquired nine patents, two trademarks and four Plant Breeders' Rights; abandoned four patents and three trademarks; and had one patent expire. A table of registered IP which is owned by AWI or in which AWI has an interest is included as Appendix B on page 100.

AWI also signed during the year the following 14 commercial contracts relating to industry partnership/licensing of research outcomes:

- Dog Baits
- Dag Wool
- Ovine Atadenovirus Vector
- Canid Lures
- Deadman Switch
- Woollen Shirts
- Machine Washable Wool Suits
- Novel Knit Fabric
- Geospatial Information
- Easy Care Trousers
- Spunlace
- Heated Fabric
- Project Eagle
- ColorClear

### Responding to Australian Government priorities

The Australian Government is a major investor in the wool industry by providing statutory levy collection power plus taxpayer funds. The

Australian Government has put the following six challenges to all R&D Corporations (RDCs) including AWI:

#### Is the RDC maximising R&D benefits to the industry?

Despite AWI being a relatively young RDC, we have delivered during the past year real R&D results to the wool industry throughout the areas of Wool Production, Textile Technology, Trade Development, and Corporate Affairs (see the *Report of Program Operations* beginning on page 23).

#### Is the RDC maximising adoption of R&D by the industry?

A major feature of the past year was the increased emphasis we placed on working directly with textile manufacturers and retailers to get the outcomes of textile research to market (see the *Commercialising R&D project outcomes* section on page 48). We continued to facilitate the adoption of R&D outcomes by woolgrowers through initiatives such as the state grower extension programs (see the *Education and Adoption* section on page 30).

#### Is the RDC working closely with other RDCs?

We continued our relationships and collaboration, financially and intellectually, with other R&D organisations during the year, including other RDCs such as Meat and Livestock Australia, Land and Water Australia and the Grains Research & Development Corporation (see the *Collaboration with other R&D organisations* section on page 48).

#### Is the RDC improving its current practices?

We have refocused our programs to help ensure that the products and

outputs from our textile related R&D projects get to market and increase the demand for wool. In the wool production area, the purpose of the new emphasis on commercialisation is to create new on-farm solutions for woolgrowers to use on their enterprises. (see *Commercialising R&D project outcomes* section on page 48). We also put in place a range of measures to improve our internal practices during the year (see the *Corporate Review* on page 51).

#### Is the RDC communicating effectively with Government and industry?

We continued our positive relationships with those in Government and industry who influence wool industry policy. We also kept woolgrowers, the industry and Government informed about the company's activities and R&D outcomes (see the report on the *Corporate Affairs* program on page 44).

#### Is the RDC the best model for Government and industry investment?

AWI is delivering real outcomes for the wool industry. This is recognised by Australian woolgrowers who delivered a clear mandate for the continuance of wool R&D at WoolPoll 2003 in November 2003. Woolgrowers voted by a strong majority for continuation of the two per cent wool levy. This result has provided for a solid investment in the future of the Australian wool industry and we are confident that woolgrowers will continue to provide a firm endorsement of wool R&D at the next WoolPoll vote in 2006.

# corporate review

## Corporate Governance Statement

The AWI Board believes that a strong corporate governance culture throughout AWI enhances performance and maximises the Company's ability to achieve its primary mission of increasing the long-term profitability of Australian woolgrowers.

Where appropriate, the Board has adopted the ASX Corporate Governance Council's Principles of Good Corporate Governance and Best Practice Recommendations. While these ASX Corporate Governance Principles are not binding on AWI as an un-listed public company, the AWI Board is committed to adopting them in broad terms as befitting a not-for-profit company.

The Board has approved a Corporate Governance Statement which details the position of AWI, as at 30 June 2005, in relation to the following 10 core principles contained within the ASX Corporate Governance Principles:

- Principle 1: Lay solid foundations for management of oversight
- Principle 2: Structure – The Board to add value
- Principle 3: Promote ethical and responsible decision making
- Principle 4: Safeguard integrity in financial reporting
- Principle 5: Make timely and balanced disclosure
- Principle 6: Respect the rights of shareholders
- Principle 7: Recognise and manage risk

- Principle 8: Encourage enhanced performance
- Principle 9: Remunerate fairly and responsibly
- Principle 10: Recognise the legitimate interests of stakeholders

The Corporate Governance Statement is available on the AWI website.

## New corporate governance policies

Corporate governance policies approved by the Board during 2004/05 include:

- *Board Charter* – sets out the functions and responsibilities of the Board of Directors and of management of AWI.
- *Code of Conduct – Directors and Officers* – sets out the requirements that each Director and officer of AWI must comply with.
- *Charter of the Committees of the Board* – governs the roles, responsibilities, composition and membership of the committees of the Board of Directors of AWI.
- *Rules and Procedures governing election of Directors* – govern the conduct at any general meeting of AWI of the election of Directors.

All the policies are available on the AWI website.

## The Board

The Board continued to meet regularly during 2004/05, concentrating on core functions including:

- enhancing corporate governance systems and providing transparent, balanced reporting of Company operations to shareholders; and

- building a portfolio of programs and projects aimed at enhancing the long-term profitability of woolgrowers.

A number of AWI Board committees continue to monitor and guide specific activities. These committees assist the Board to effectively implement, monitor and enforce the Corporate Governance Principles throughout the Company. At 30 June 2005, there were five committees in place:

### Finance and Audit Committee

The Committee's main role is to:

- assist the Board in managing its responsibilities relating to all financial matters;
- ensure the company's financial controls are working effectively; and
- monitor and guide the company's approach to risk management.

### Intellectual Property and Commercialisation Committee

The Committee's major role is to provide policy direction for the management of AWI's Intellectual Property (IP) portfolio.

### Remuneration and Appointments Committee

The Committee sets remuneration, terms of employment and conditions, staffing policies and staffing levels as well as reviewing Board and management performance.

### Falkiner Memorial Field Station Committee

The Committee's role is to provide oversight and guidance of the major capital redevelopment at the Falkiner Memorial Field Station.

### Integration Committee

During 2004/05, the Board appointed an informal committee of Directors known as the Integration Committee. This Committee, chaired by the Chairman of the Board, has been appointed for a limited purpose and time to advise the Board on possible options to form an alliance between AWI and Australian Wool Services Limited.

### New Statutory Funding Agreement (SFA)

The Statutory Funding Agreement 2004 to 2007 between The Commonwealth of Australia and AWI was signed on 31 August 2004 and came into effect on 1 September 2004. Wide consultation with state farmer organisations, industry bodies and woolgrowers was sought to ensure industry consensus on the new SFA. The SFA requires AWI to allocate funds to nominated research, development and innovation activities to ensure that any project is to the benefit of Australian woolgrowers, and that projects are efficient, effective and ethical.

The new SFA is available on the AWI website.

### Audit and risk

AWI has continued to strengthen its internal controls and level of accountability, and engages the services of three of Australia's leading professional services firms. PricewaterhouseCoopers is engaged to conduct the external audit and report to our members, Deloitte Touche Tohmatsu conducts internal audits on a regular basis, reporting on internal controls and processes to

the Finance and Audit Committee, and Ernst & Young provides advice on taxation and other related matters to AWI management.

AWI has also conducted a number of risk assessments in conjunction with the internal auditors and its insurance broker, Jardine Lloyd Thompson. Appropriate insurances have been effected and AWI has developed a risk management plan.

### AWI staff

During 2004/05, the company commenced the development and implementation of an integrated human resources strategy. The purpose of the strategy is to ensure that the company has the right people with the skill sets required for AWI to meet its Strategic Plan. With the pool of skilled people contracting into the future, two of the major goals of AWI's workforce planning are staff retention and succession planning. As a result, several new policies were implemented, including:

- *Recruitment and Selection Policy* – to ensure that AWI attracts and appoints high calibre staff with the necessary skills and attributes to fulfil its strategic aims.
- *Staff Training and Development Policy* – providing the framework for all staff training, to prepare an employee to perform competently in their role, and development, to build up an individual employee for a future role.
- *Equal Employment Opportunity, Anti-Discrimination and Harassment Policy* – to ensure that AWI's structure, practices, policies and guidelines are free from direct

or indirect discrimination and that members of staff, AWI contractors and any visitor are not subjected to any type of harassment.

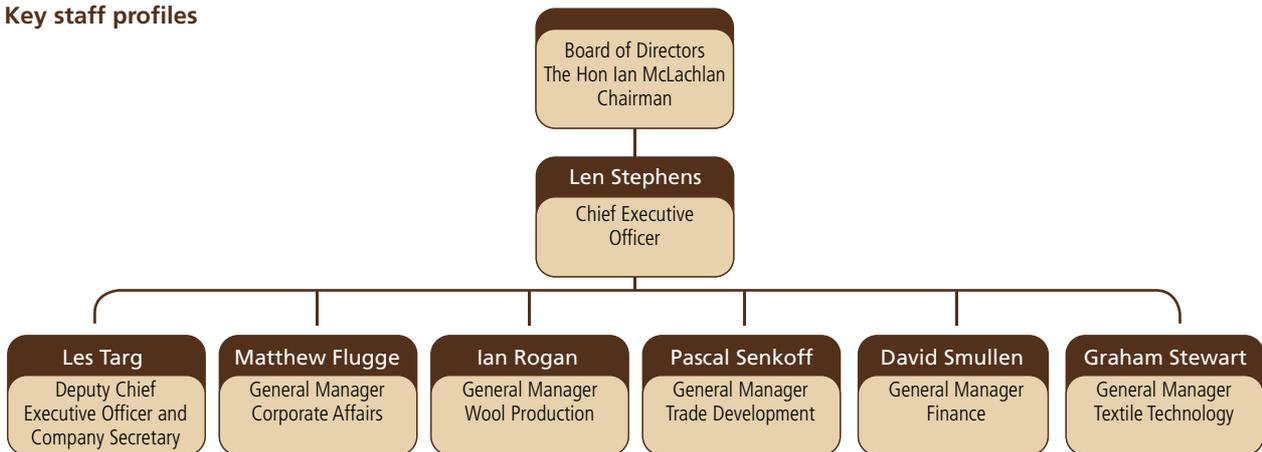
During 2004/2005, AWI also continued with various established human resource initiatives including:

- Hazard assessments and monitoring of appropriate measures to ensure the health and safety of all employees in AWI designated workplaces, which is particularly relevant for AWI's Falkiner Memorial Field Station;
- regular employee performance reviews; and
- assistance with the recruitment, orientation, training, and development of employees.

### AWI staff statistics

- At 30 June 2005 AWI had a total of 74 staff members.
- Eighty five per cent have tertiary qualifications of various disciplines.
- Forty seven per cent of AWI staff are female.
- AWI employees are located in AWI offices in Sydney, Melbourne, Geelong, Deniliquin, Gosford and overseas in Shanghai, Beijing and New York.

## Key staff profiles



### Chief Executive Officer:

Dr Len Stephens *Dip Agr Sci, BVSc, MSc, PhD*

Len Stephens was appointed as CEO in April 2003, with the responsibility to lead the company in the delivery and commercialisation of its research, development and innovation on behalf of woolgrowers. Len has an extensive background in rural research and development and came to AWI after five years as General Manager for Livestock Production Innovation at Meat and Livestock Australia. Previously he held senior positions with the then Meat Research Corporation and Agriculture Victoria, including as foundation Director of the Victorian Institute of Animal Science. Len holds Australian tertiary qualifications in both Agricultural and Veterinary Sciences and was awarded Master of Science and Doctorate of Philosophy degrees from the University of Guelph, Canada.

### Deputy Chief Executive Officer and Company Secretary:

Les Targ

Les Targ is responsible for developing and implementing the AWI corporate services of legal, contracting, IP management, company secretarial and human resources. Les is also responsible for the wool harvesting program and crisis management. Les has 25 years of senior management experience as a company director, CEO and senior executive. Prior to joining AWI, Les held senior executive positions in the Australian defence and aerospace industries, including ten years with ADI Limited, a high technology defence systems and engineering company.

### General Manager Corporate Affairs:

Matthew Flugge

Matthew Flugge manages the Corporate Affairs portfolio, responsible for communications and industry and government relations. Prior to his appointment in February 2005, Matthew was with AWI for two years undertaking the role of Industry

and Government Relations Manager. Before joining AWI, Matthew was Executive Director of the Victorian Farmers Federation (VFF) Pastoral Group, with responsibility for industry and government matters relating to the wool, cattle, sheepmeat and goat industries across Victoria and Australia. Matthew has also had extensive experience in agricultural policy and industry initiatives and has held senior positions with the WA Minister for Agriculture and the WA Department of Agriculture.

### General Manager Wool Production:

Ian Rogan *B Rural Science (Hons)*

Ian Rogan oversees the Wool Production portfolio, managing AWI's investments in the key on-farm areas of genetic improvement technologies, pasture development, fibre specification, animal health and natural resource management. Ian has significant experience in both agricultural research and commercial agriculture. He was previously a director and senior consultant of agricultural consultancy Hassall and

Associates for 12 years. Prior to this, Ian was a regional director of research with NSW Agriculture and also principal research scientist with the South Australian Department of Agriculture where he headed the state's centre of excellence for sheep and wool research.

**General Manager  
Trade Development:**

Pascal Senkoff

Pascal Senkoff is responsible for AWI's Trade Development portfolio, which aims to commercialise wool innovations and work with Government and industry to help reduce trade barriers. Pascal has 16 years experience in the wool textile trade and prior to joining AWI was Greater China General Manager for Chargeurs wool. He was responsible for industrial and trading activities for a region that included Greater China, Japan, Korea, Indonesia, India and Australia. Prior to working in China, Pascal was based at Chargeurs in Japan, where he was responsible for starting up the Chargeurs Interlining business.

**General Manager Finance:**

David Smullen *BA, CA, ACA*

David Smullen manages the company's Finance division and is also responsible for developing and implementing the AWI corporate services of audit, risk management, IT systems and office services. David has extensive experience in financial management, having worked in senior financial roles over the past 15 years in a number of industries including publishing, property, telecommunications and medical

research. Prior to joining AWI, David was Chief Financial Officer of Ventracor Limited, a listed company developing a medical device.

**General Manager  
Textile Technology**

*(from June 2005):*

Graham Stewart

Graham Stewart has responsibility for managing the operations of the Textiles team, including the development of new wool products and processes, fundamental wool science and the marketing of wool innovations to designers, manufacturers and retailers. Prior to joining AWI in June 2005, Graham had his own consultancy company working with a number of leading international textile businesses. He previously worked for Michell Australia, managing operations in Europe before heading up the company's marketing from Adelaide. Graham began his career in the UK with the Brook Group, Europe's largest dyer, and as a divisional director for the textile consumer brand house Dawson International PLC in the UK, Europe and United States.

**General Manager  
Textile Technology**

*(until May 2005):*

Eric Finnie

Eric Finnie had responsibility for managing the operations of the Textiles team until May 2005 when he resigned from AWI to return to the UK with his family. Eric continues to provide consultancy services to AWI. Eric has nearly 30 years' experience in the northern hemisphere textile and

apparel business and was previously the Managing Director and CEO of UK based textile manufacturer Drummond Group. Prior to that, he held a number of executive positions with Coats Viyella, a major UK based knitwear and apparel manufacturing business.

## financial statements

<b>Contents</b>	<b>Page</b>
Directors' report	56
Financial report	61
Directors' declaration	81
Independent audit report to the members	82

# Directors' report

Your directors present their report on Australian Wool Innovation Limited for the year ended 30 June 2005.

## Directors

The following persons were directors of Australian Wool Innovation Limited during the whole of the financial year (except where indicated otherwise) and continue to hold office at the date of this report.

The Hon I M McLachlan AO

Mr B P van Rooyen

Dr C J Abell

Dr K J Bell

Mr W B Merriman

Mr H P Nivison

Mr P S Sykes

Mr J D O Boyd retired from the Board pursuant to Rule 13 of the Constitution at the end of the AGM held 19 November 2004.

Mr W B Merriman was elected a director of the Board pursuant to Rule 11 of the Constitution from the close of the AGM held 19 November 2004.

Information on directors and their experience can be found on page 2.

## Review of operations and results

	2005	2004
	\$'000	\$'000
Revenue	64,999	63,202
(Deficit)/Surplus from ordinary activities	(13,498)	8,816

## Principal activities

The principal activity of Australian Wool Innovation Limited as recorded in its adopted strategic plan is to drive research, development and innovation that will increase the long term profitability of Australian wool growers. To achieve that mission, the company receives funding from the Commonwealth Government of Australia by way of both a statutory levy imposed upon Australian wool growers and a capped matching contribution from the Government on behalf of Australian taxpayers.

## Matters subsequent to the end of the financial year

There have been no material financial matters subsequent to the end of the financial year.

## Likely developments and expected results of operations

Information on likely developments in the company's operations and the expected results of operations have not been included in this report because the directors believe it would be likely to result in unreasonable prejudice to the company.

## Company secretary

The company secretaries are Mr L Targ (former CEO and senior executive in the defence and aerospace industries with particular experience in strategic business development, finance and audit) and Mr C Chapman (Barrister and Solicitor, Dip Law, MBA, FAICD, FCIS).

## Meetings of directors

Director	Committees											
	Full meeting of directors		Finance & Audit		Falkiner Memorial Field Station		Remuneration & Appointments		Intellectual Property		Integration	
	A	B	A	B	A	B	A	B	A	B	A	B
I M McLachlan	13	13*	1	1^	–	–	9	9	4	4	2	2*
B P van Rooyen	13	13	12	12*	–	–	9	9*	–	–	2	2
C J Abell	13	13	12	12	6	6*	–	–	4	4	2	2
K J Bell	13	13	–	–	6	6	–	–	–	–	–	–
J D O Boyd	6	4	8	7	–	–	–	–	–	–	–	–
W B Merriman	7	7	–	–	–	–	4	4	–	–	–	–
H P Nivison	13	13	4	4	6	6	5	5	4	4*	–	–
P S Sykes	13	13	–	–	–	–	–	–	4	3	2	2

A – Number of meetings held during the time the director held office

B – Number of meetings attended

\* – Indicates chairman

^ – Attended as an acting member

The Board appointed an informal committee of directors known as the Integration Committee. This committee, chaired by the Chairman of the Board, has been appointed for a limited purpose and time: to advise the Board on possible options to form an alliance between Australian Wool Innovation Limited (AWI) and Australian Wool Services Limited (AWS).

### Remuneration report

The objective of the company's executive reward framework is to ensure reward for performance is competitive and appropriate for the results delivered. The framework aligns executive reward with achievement of strategic objectives and the innovation of value for shareholders, and conforms with market best practice for delivery of reward. The Board ensures that executive reward satisfies the following key criteria for good reward governance practices:

- competitiveness and reasonableness
- acceptability to shareholders
- transparency

In consultation with external remuneration consultants, the company has structured an executive remuneration framework that is market competitive, attracts and retains high calibre executives and is complementary to the reward strategy of the organisation.

### Directors' fees

All directors are non-executive, and fees and payments to directors reflect the demands which are made on, and the responsibilities of, the directors. All directors' fee payments are reviewed annually by the Board. The Board also has agreed to the advice of independent remuneration consultants to ensure directors' fees and payments are appropriate and in line with the market. The Chairman's fees are determined independently to the fees of directors based on comparative roles in the external market. The Chairman and other non-executive directors receive additional fees for their membership on committees.

Superannuation payments are made in accordance with the Superannuation Guarantee legislation to the executive's choice of superannuation fund.

The Board undertakes an annual review of its performance and the performance of the Board committees against goals set at the start of the year. Bonuses are not payable to non-executive directors.

Details of the nature and amount of each element of the emoluments of each director of Australian Wool Innovation Limited are set out in the following table.

## Directors' report (continued)

### Remuneration report (continued)

#### Non-executive directors of Australian Wool Innovation Limited

Name	Primary		Post-employment		Total
	Directors' base fee	Committee fees	Superannuation	Separation	
	\$	\$	\$	\$	
I M McLachlan, Chairman	103,000	11,358	10,292	–	124,650
B P van Rooyen	51,500	11,358	5,657	–	68,515
C J Abell	51,500	16,508	6,121	–	74,129
K J Bell	51,500	4,859	5,072 <sup>(1)</sup>	–	61,431
J D O Boyd	20,157	1,717	1,968 <sup>(1)</sup>	–	23,842
W B Merriman	31,692	2,773	3,101	–	37,566
H P Nivison	51,500	15,450	6,025	–	72,975
P S Sykes	51,500	6,208	5,194 <sup>(1)</sup>	–	62,902
<b>Total</b>	<b>412,349</b>	<b>70,231</b>	<b>43,430</b>	<b>–</b>	<b>526,010</b>

<sup>(1)</sup> Payment made to a related body corporate of the director as provision for superannuation benefits

#### Executive pay

The executive pay consists of base pay, benefits and superannuation. These are structured at the executives' discretion as a total employment cost package, which may be delivered as a mix of cash and prescribed non-financial benefits. The value of non-financial benefits is calculated on the basis of the "total cost to the company", so that the total expense to the company is no more than it would have been had the company paid cash salary plus statutory superannuation contributions.

Superannuation payments are made in accordance with the Superannuation Guarantee legislation to the executive's choice of superannuation fund. Australian Wool Innovation Limited does not offer a defined benefits retirement plan.

There are no guaranteed pay increases in any senior executive contracts.

The annual salary packages (including superannuation) of the Chief Executive Officer and the General Managers at the date of this report fall into the bands shown in the table below:

\$	\$	2005
230,000 –	249,999	5
270,000 –	289,999	1
350,000 –	369,999	1

Two General Managers left during the financial year; no separation pay was paid or payable to either individual.

#### Executive Service Agreements

Remuneration and other terms of employment for the Chief Executive Officer and General Managers are formalised in service agreements. These service agreements state a salary package (which is calculated on a total cost to the company basis). None of these service agreements include bonus, share options or termination conditions in excess of six months.

#### Insurance of officers

During the year, Australian Wool Innovation Limited paid an insurance premium of \$41,725 to insure the directors and officers of the entity against liability and professional indemnity.

**Non-audit services**

The company may decide to appoint the auditor on assignments additional to their statutory audit duties where the auditor's experience with the company and/or the consolidated entity are important. However, since 11 June 2003 it has been the company's policy to employ PricewaterhouseCoopers on assignments additional to their statutory audit duties only where PricewaterhouseCoopers' expertise and experience with the company are important.

Details of the amounts paid to the auditor (PricewaterhouseCoopers) for audit and non-audit services provided during the year are set out in Note 18 to the Financial Statements.

A copy of the auditors' independence declaration as required under section 307C of the *Corporations Act 2001* is set out on page 60.

**Rounding of amounts**

The company is of a kind referred to in Class Order 98/0100, issued by the Australian Securities & Investments Commission, relating to the 'rounding off' of amounts in the directors' report. Amounts in the directors' report have been rounded off in accordance with that Class Order to the nearest thousand dollars, or in certain cases, to the nearest dollar.

**Dividends Paid**

There have been no dividends paid or recommended for the 2005 financial year (2004: Nil).

**Share options**

There have been no share options granted to any directors or executives of the company.

**Environmental regulation**

The entity's operations are not subject to any particular or significant environmental regulations under either Commonwealth or State legislation.

**Proceedings on behalf of the company**

No person has applied to the Court under section 237 of the *Corporations Act 2001* for leave to bring proceedings on behalf of the company, or to intervene in any proceedings to which the company is a party for the purpose of taking responsibility on behalf of the company for all or part of those proceedings.

No proceedings have been brought or intervened in on behalf of the company with leave of the Court under section 237 of the *Corporations Act 2001*.

**Statutory funding agreement obligations**

In addition to usual annual reporting requirements, there are additional reporting requirements imposed upon the company under Schedule 3 of the Statutory Funding Agreement between Australian Wool Innovation Limited and the Commonwealth of Australia. These are all dealt with in this annual report with the exception of a listing of the projects for which Commonwealth Matching Funds have been claimed. This will be provided separately to the Government.

A number of the matters identified in this report contain commercial in confidence information and the company has elected to exercise its prerogative to provide that report separately to the Commonwealth on an 'in confidence' basis.

This report is made in accordance with a resolution of directors.



I M McLachlan  
Chairman

Sydney  
16 September 2005

## Auditors' independence declaration

As lead auditor for the audit of Australian Wool Innovation Limited for the year ended 30 June 2005, I declare that, to the best of my knowledge and belief, there have been:

- (a) no contraventions of the auditor independence requirements of the *Corporations Act 2001* in relation to the audit; and
- (b) no contraventions of any applicable code of professional conduct in relation to the audit.



Peter Buchholz  
Partner  
PricewaterhouseCoopers

Sydney  
16 September 2005

# Financial Report – 30 June 2005

	<b>Page</b>
Contents	
Statement of Financial Performance	62
Statement of Financial Position	63
Statement of Cash Flows	64
Notes to the Financial Statements	65
Directors' declaration	81
Independent audit report to the members	82

The financial report covers Australian Wool Innovation Limited as an individual entity. Australian Wool Innovation Limited is a company limited by shares, incorporated and domiciled in Australia. Its registered office and principal place of business is:

Level 5  
16–20 Barrack Street  
SYDNEY NSW 2000

A description of the nature of the entity's operations and principal activities is included in the review of operations and activities in the directors' report on pages 56–59, which is not part of this financial report.

61

# Statement of Financial Performance

For the year ended 30 June 2005

	Notes	2005 \$'000	2004 \$'000
<b>Revenue from ordinary activities</b>	3	64,999	63,202
Research, development and innovation program expenditure	5	(65,721)	(44,334)
RDI support services expenditure	5		
• Employee expenses		(4,832)	(5,571)
• Legal and professional expenses	4	(2,856)	(1,652)
• Travel expenses		(738)	(593)
• Depreciation and amortisation expenses		(784)	(806)
• Other expenses from ordinary activities		(3,566)	(2,882)
Reversal of contract provision		–	1,452
<b>(Deficit) / Surplus from ordinary activities</b>	17	(13,498)	8,816
<b>Total changes in equity attributable to members of Australian Wool Innovation Limited other than those resulting from transactions with owners as owners</b>		(13,498)	8,816

*The above statement of financial performance should be read in conjunction with the accompanying notes.*

# Statement of Financial Position

For the year ended 30 June 2005

	Notes	2005 \$'000	2004 \$'000
<b>Current assets</b>			
Cash assets	6	101,079	113,134
Receivables	7	4,232	5,634
Other	8	836	557
Total current assets		106,147	119,325
<b>Non current assets</b>			
Receivables	9	–	–
Property, plant and equipment	10	4,547	4,030
Livestock	11	584	–
Intangible assets	12	–	–
Total non-current assets		5,131	4,030
<b>Total assets</b>		111,278	123,355
<b>Current liabilities</b>			
Payables	13	7,585	6,205
Provisions	14	615	555
Total current liabilities		8,200	6,760
<b>Non-current liabilities</b>			
Provisions	15	86	105
Total non-current liabilities		86	105
<b>Total liabilities</b>		8,286	6,865
<b>Net assets</b>		102,992	116,490
<b>Equity</b>			
Contributed equity *	16	–	–
Retained surplus	17	102,992	116,490
<b>Total equity</b>		102,992	116,490

\* At 30 June 2004 and 2005 contributed equity was \$100.

*The above statement of financial position should be read in conjunction with the accompanying notes.*

# Statement of Cash Flows

For the year ended 30 June 2005

	Notes	2005 \$'000	2004 \$'000
<b>Cash flows from operating activities</b>			
Receipts from customers (inclusive of goods and services tax)		63,344	60,232
Payments to suppliers and employees (inclusive of goods and services tax)		(82,079)	(68,187)
		(18,735)	(7,955)
Interest received		6,507	5,020
Other revenue		1,543	536
<b>Net cash inflow/(outflow) from operating activities</b>	25	(10,685)	(2,399)
<b>Cash flows from investing activities</b>			
Payments for property, plant and equipment		(1,698)	(1,958)
Proceeds from sale of property, plant and equipment		328	26,123
<b>Net cash inflow/(outflow) from investing activities</b>		(1,370)	24,165
<b>Net increase/(decrease) in cash held</b>		(12,055)	21,766
Cash at the beginning of the financial year		113,134	91,368
<b>Cash at the end of the financial year</b>	6	101,079	113,134

*The above statement of cash flows should be read in conjunction with the accompanying notes.*

# Notes to the Financial Statements

30 June 2005

Note	Contents	Page
1	Summary of significant accounting policies	66
2	Segment information	69
3	Revenue	69
4	Surplus from ordinary activities	69
5	Research, development and innovation expenditure	70
	Current assets	
6	Cash assets	72
7	Receivables	73
8	Other	73
	Non-current assets	
9	Receivables	73
10	Property, plant and equipment	74
11	Livestock	75
12	Intangible assets	75
	Current liabilities	
13	Payables	75
14	Provisions	75
	Non-current liabilities	
15	Provisions	75
	Total equity	
16	Contributed equity	76
17	Retained surplus	76
18	Financial instruments	77
19	Remuneration of auditors	78
20	Commitments for expenditure	78
21	Employee benefits	79
22	Related parties	79
23	Economic dependency	80
24	Events occurring after reporting date	80
25	Reconciliation of surplus from ordinary activities to net cash inflow from operating activities	80

# Notes to the Financial Statements

30 June 2005

## Note 1. Summary of significant accounting policies

This general-purpose financial report has been prepared in accordance with Accounting Standards, other authoritative pronouncements of the Australian Accounting Standards Board, Urgent Issues Group Consensus Views and the *Corporations Act 2001*.

The principal accounting policies adopted in the preparation of the financial report are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

These financial statements have been prepared under the historical cost convention, except for certain assets which, as noted, are at valuation. Unless otherwise stated, the accounting policies adopted are consistent with those of the previous year. Comparative information is reclassified where appropriate to enhance comparability.

The Australian Accounting Standards Board (AASB) is adopting International Financial Reporting Standards (IFRS) for application to reporting periods beginning on or after 1 January 2005. The AASB has issued Australian equivalents to IFRS, and the Urgent Issues Group has issued interpretations corresponding to IASB interpretations originated by the International Financial Reporting Interpretations Committee or the former Standing Interpretations Committee. The adoption of Australian equivalents to IFRS will be first reflected in the financial statements for the year ending 30 June 2006. Information about how the transition to Australian equivalents to IFRS is being managed, and the key differences in accounting policies that are expected to arise, is set out in note 1E.

### A General

#### A (1) Income tax

Australian Wool Innovation Limited is exempt from income tax in Australia under Section 50–40 of the *Income Tax Assessment Act 1997*.

#### A (2) Foreign currency translation Transactions

Foreign currency transactions are initially translated into Australian currency at the rate of exchange at the date of the transaction. At reporting date amounts payable and receivable in foreign currencies are translated to Australian currency at rates of exchange current at that date. Resulting exchange differences are recognised in determining the surplus or deficit for the year.

### A (3) Rounding of amounts

The company is of a kind referred to in Class Order 98/0100, issued by the Australian Securities and Investments Commission, relating to the “rounding off” of amounts in the financial report. Amounts in the financial report have been rounded off in accordance with that Class Order to the nearest thousand dollars, or in certain cases, to the nearest dollar.

### B Revenue and expenditure

#### B (1) Revenue recognition

Revenue for the sale of goods is recognised upon the delivery of the goods to the customers.

Revenue for the disposal of non-current assets is recognised when control of the asset has passed to the buyer.

Revenue from the rendering of a service is recognised by reference to the stage of completion of contracts or other agreements to provide services.

Interest revenue is recognised on a proportional basis taking into account the interest rates applicable to the financial assets.

#### B (2) Goods and Services Tax

Revenues, expenses and assets are recognised net of the amount of goods and services tax (GST), except:

- where the amount of GST incurred is not recoverable from the taxation authority, it is recognised as part of the cost of acquisition of an asset or as part of an item of expense; or
- for receivables and payables which are recognised inclusive of GST.

The net amount of GST recoverable from, or payable to, the taxation authority is included as part of receivables or payables.

## Note 1. Summary of significant accounting policies (continued)

### B (3) Acquisition of assets

Purchases of property, plant and equipment are recognised at cost in the statement of financial position, except for purchases costing less than \$2,000, which are expensed in the year of acquisition.

### C Assets

#### C (1) Cash

For the purpose of the statement of cash flows, cash includes deposits held at call with a bank, funds under management and investment securities. There were no standby credit facilities in place at 30 June 2005.

#### C (2) Receivables

Collectibility of trade debtors is reviewed on an ongoing basis. Debts which are known to be uncollectible are written off. A provision for doubtful debts is raised when some doubt as to collection exists.

#### C (3) Recoverable amount of non-current assets

The recoverable amount of an asset is the net amount expected to be recovered through the cash inflows and outflows arising from its continued use and subsequent disposal.

Where the carrying amount of a non-current asset is greater than its recoverable amount, the asset is written down to its recoverable amount. Where net cash inflows are derived from a group of assets working together, the recoverable amount is determined on the basis of the relevant group of assets. The decrement in the carrying amount is recognised as an expense in net surplus or deficit in the reporting period in which the recoverable amount write down occurs.

#### C (4) Intangible Assets

##### (i) Research, development and innovation

Costs incurred on research and development projects and in-process research and development acquired in the acquisition of an entity or operation are expensed as incurred.

##### (ii) Intellectual property

Costs associated with intellectual property, either developed or acquired by the company, are expensed as incurred, except to the extent that they are expected beyond a reasonable doubt to be recoverable.

In the event that the future economic benefit attributable to an individual research, development and innovation project or piece of intellectual property can be determined and it becomes probable such benefit will exceed the future cumulative expenditure relating to that item, all future costs relating to that item are deferred and amortised on a straight line basis over the period of their expected benefit.

#### C (5) Investments

Investments are stated at cost less amounts written off for permanent diminution in their value. Investment income is recognised in the statement of financial performance when receivable.

#### C (6) Depreciation of property, plant and equipment

Depreciation is calculated on a straight line basis to write off the net cost or re-valued amount of each item of property, plant and equipment (excluding land) over its expected useful life to the economic entity. Estimates of remaining useful lives are made on a regular basis for all assets, with annual reassessments for major items. The expected useful lives are as follows:

Category	Useful life	Depreciation basis
Buildings	40 years	straight line
Plant and equipment	2–6 years	straight line

#### C (7) Leasehold improvements

The cost of improvements to or on leasehold properties is amortised over the unexpired period of the lease or the estimated useful life of the improvement to the entity, whichever is the shorter. Leasehold improvements held at reporting date are being amortised over 7 years.

**Note 1. Summary of significant accounting policies (continued)**

**D Liabilities**

**D (1) Trade and other creditors**

These amounts represent liabilities for goods and services provided to the company prior to the end of the financial year and which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

**D (2) Employee entitlements**

*(i) Wages, salaries and annual leave*

Liabilities for wages, salaries and annual leave expected to be settled within 12 months of the reporting date are measured at the amounts expected to be paid when liabilities are settled. Liabilities for non-accumulating sick leave are recognised when the leave is taken and measured at the rates paid or payable.

The liability for long service leave expected to be settled within 12 months of the reporting date is recognised in the provision for employee benefits and is measured in accordance with (i) above. The liability for long service leave expected to be settled more than 12 months from the reporting date is recognised in the provision for employee benefits and measured as the present value of expected future payments to be made in respect of services provided by employees up to the reporting date.

**E International Financial Reporting Standards (IFRS)**

The Australian Accounting Standards Board (AASB) is adopting IFRS for application to reporting periods beginning on or after 1 January 2005. The AASB has issued Australian equivalents to IFRS, and the Urgent Issues Group has issued interpretations corresponding to IASB interpretations originated by the International Financial Reporting Interpretations Committee or the former Standing Interpretations Committee. The adoption of Australian equivalents to IFRS will be first reflected in the entity's financial statements for the year ending 30 June 2006.

Entities complying with Australian equivalents to IFRS for the first time will be required to restate their comparative financial statements to amounts reflecting the application of IFRS

to that comparative period. Most adjustments required on transition to IFRS will be made, retrospectively, against opening retained earnings as at 1 July 2004.

The Chief Executive Officer and the General Manager – Finance have been appointed to manage the transition to Australian equivalents to IFRS, including training of staff and system and internal control changes necessary to gather all the required financial information. They have reported to the finance and audit committee during the financial year ended 30 June 2005, and have the opinion that, following an analysis of most of the Australian equivalents to IFRS, there are no differences that are expected to have a significant impact on the financial statements. The following standards may have an impact on the accounting policies of the consolidated entity:

Impairment of assets – Under AASB 136 (the Australian equivalent to IAS 36) discounted cash flows will be required to calculate the recoverable amount of assets. Under the current accounting policy, discounted cash flows are not required.

Intangible assets – Under AASB 138 (the Australian equivalent to IAS 38) internally generated intangibles (eg patents, trademarks, etc.) can only be recognised in accordance with strict criteria. The consolidated entity does not currently recognise any intellectual property on its statement of financial position and therefore the changes to the recognition criteria for these assets are not expected to impact on the consolidated entity's current statement of financial position, but may have an impact going forward.

The above should not be regarded as a complete list of changes in accounting policies that will result from the transition to Australian equivalents to IFRS, as not all standards have been analysed as yet, and some decisions have not yet been made where choices of accounting policies are available. For these reasons it is not yet possible to quantify the impact of the transition to Australian equivalents to IFRS on the entity's financial position and reported results.

## Note 2. Segment information

### Business Segments

Australian Wool Innovation Limited operates predominately in research, development and innovation in the wool industry.

### Geographical segments

Australian Wool Innovation Limited operates primarily in one geographic segment, that being Australia. During the financial year AWI opened offices in Shanghai, China and New York, USA which are responsible for growing domestic demand for Australian Merino

wool in key international markets through strategic engagements with manufacturing and retail brand partners. They do this by building business relationships which facilitate innovative wool based product development and its commercialisation into the consumer market. However, these offices do not enter into research, development and innovation contracts or conduct business in their own right and accordingly no geographic segment split is considered appropriate.

## Note 3. Revenue

	2005	2004
	\$'000	\$'000
<b>Revenue from operating activities</b>		
Government Contributions	13,513	14,124
Sale of goods and services	350	255
Royalties	569	355
Wool levy	42,835	42,739
Other	1,207	100
	58,474	57,573
<b>Revenue from outside the operating activities</b>		
Interest	6,525	5,629
Revenue from ordinary activities	64,999	63,202

## Note 4. Surplus from ordinary activities

Surplus/deficit from ordinary activities includes the following specific net gains and expenses:

	2005	2004
	\$'000	\$'000
<b>Expenses</b>		
Depreciation		
Buildings	70	171
Plant and equipment	714	635
Total depreciation	784	806
Other Provisions		
Employee entitlements	41	78
Rental expense relating to operating leases	614	640



**Note 5. Research, development and innovation expenditure (continued)**

	<b>2005</b>			<b>2004</b>		
	\$'000			\$'000		
	RDI Program	RDI Support	Total cost	RDI Program	RDI Support	Total cost
Employee expenses	3,674	4,832	8,506	3,493	5,571	9,064
Legal and professional expenses <sup>^</sup>	104	2,856	2,960	143	1,652	1,795
Travel expenses	936	738	1,674	1,040	593	1,633
Depreciation and amortisation expenses		784	784		806	806
Other expenses from ordinary activities	1,148	3,566	4,714	1,564	2,882	4,446
	5,862			6,240		

<sup>^</sup> Legal and professional expenses include \$1.4m (2004: \$Nil) settlement of a claim against AWI relating to a 2002 contract, including costs and interest.

The comparative figures for the year to 30 June 2004 have been restated from those shown in last year's Financial Statements. This change has been made to reflect the Strategic Plan which introduced new programs, as shown in the preceding table, and the matching of certain overheads to programs.

## Notes to the Financial Statements (continued)

30 June 2005

### Note 6. Current assets – Cash assets

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
Cash on hand and at bank	256	424
Funds under management	100,823	112,710
	<b>101,079</b>	<b>113,134</b>
Representing:		
Unrestricted cash and cash investments	65,337	78,745
Restricted as security against guarantees issued by the company's bankers <sup>(a)</sup>	326	249
Restricted by the directors in respect of:		
• Capital reserve <sup>(b)</sup>	20,606	19,900
• Emergency reserve <sup>(c)</sup>	5,000	5,000
• Operating reserve <sup>(c)</sup>	9,810	9,240
	<b>101,079</b>	<b>113,134</b>

(a) Bank guarantees have been issued to a number of parties in respect of the company's liabilities. The company has given its primary bankers security over term deposits in respect of those amounts, such deposits attracting commercial interest rates.

(b) The directors resolved in July 2003 to set aside \$24,606,000 of the funds received from the sale of the company's interest in CSIRO properties as a capital sum for special purposes. Subsequently \$4,000,000 was released as payment to the Australian Wool Education Trust.

(c) The directors resolved in May 2003 to set aside \$5,000,000 as an emergency reserve to cover any unforeseeable expenditure and 15% of annual budgeted revenue as an operating reserve in respect of future liabilities.

#### Note 7. Current assets – Receivables

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
Trade debtors	269	1,028
Provision for doubtful debts	–	–
	269	1,028
Accrued wool levy	3,498	4,161
Other debtors	465	445
	4,232	5,634

#### Note 8. Current assets – Other

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
Goods and services tax receivable	701	301
Prepayments	135	256
	836	557

#### Note 9. Non-current assets – Receivables

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
Loan to textile manufacturer	1,141	1,141
Provision for doubtful debts	(1,141)	(1,141)
	–	–

During the year ended 30 June 2003, a loan was made to a textile manufacturer to develop and commercialise wool textile products. The loan is for a term of ten years at a commercial interest rate, which is paid quarterly. Subject to certain market developments, the amount of loan repayable may be reduced to 50% of the principal. Due to the uncertainty regarding this, combined with the long timeframe before the loan is repayable, the directors have recognised a provision against the loan in full for accounting purposes. The directors will reconsider the requirement for this provision on an annual basis.

## Notes to the Financial Statements (continued)

30 June 2005

### Note 10. Non current – Property, plant & equipment

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
<b>Land and buildings</b>		
Freehold land – at cost	425	425
Buildings		
At cost	2,550	1,906
Less: Accumulated depreciation	(205)	(138)
	2,345	1,768
Total land and buildings	2,770	2,193
<b>Plant and equipment</b>		
Plant & equipment		
At cost	3,250	3,155
Less: Accumulated depreciation	(1,473)	(1,318)
Total plant and equipment	1,777	1,837
	4,547	4,030

#### Reconciliations

Reconciliation of the carrying amounts of each class of property, plant and equipment at the beginning and end of the current financial year is set out below:

	<b>Land and Buildings</b>	<b>Plant and equipment</b>	<b>Total</b>
	\$'000	\$'000	\$'000
Carrying amount at 1 July 2004	2,193	1,837	4,030
Additions	747	951	1,698
Disposals	(100)	(297)	(397)
Depreciation/amortisation expense	(70)	(714)	(784)
Carrying amount at 30 June 2005	2,770	1,777	4,547

#### Note 11. Livestock

	2005	2004
Number of livestock	11,721	2,918
	\$'000	\$'000
Value	584	–

Livestock are carried on the balance sheet at cost, with adjustment made to reflect net market value as appropriate. Livestock acquired prior to 1 July 2004 had been expensed to the Statement of Financial Performance as this was prior to major redevelopment of the operations at the farm in preparation for introducing research activities; these livestock have been excluded from the statement of financial position as it was not the company's intention to show a profit by recognising previously expensed items.

#### Note 12. Non-current assets – Intangible assets

	2005	2004
	\$'000	\$'000
Patents and trademarks	–	–

The Company owns or has an interest in a number of items of registered intellectual property, as shown in Appendix B of this Annual Report. The company's current policy is to expense all intellectual property costs as incurred unless Generally Accepted Accounting Practice requires treatment otherwise. At the date of this report, no costs relating to these intangible assets have been deferred; all costs have been expensed as incurred.

#### Note 13. Current liabilities – Payables

	2005	2004
<b>Unsecured</b>	\$'000	\$'000
Trade creditors	631	1,170
Other payables – RDI contract payments accrued	4,722	3,483
Other creditors	2,232	1,552
	7,585	6,205

#### Note 14. Current liabilities – Provisions

	2005	2004
	\$'000	\$'000
Annual leave	597	439
Other employee entitlements	18	116
	615	555

#### Note 15. Non-current liabilities – Provisions

	2005	2004
	\$'000	\$'000
Long service leave	86	105
	86	105

## Notes to the Financial Statements (continued)

30 June 2005

### Note 16. Contributed equity

	<b>2005</b>	<b>2004</b>
	Shares	Shares
<b>(a) Share capital</b>		
Ordinary shares – fully paid	37,462	37,462

#### (b) Ordinary shares

The \$100 represents the initial capital contribution on the establishment of the company. Each wool grower has a right to one vote for every \$100 of wool levy or wool tax contributed during the 3 previous financial years, as defined in the *Wool Services Privatisation Act 2000 (Cth)*. These shares do not entitle wool growers to participate in any profit distributions or in any proceeds on the winding up of the entity.

#### (c) Movements in ordinary share capital

Date	Details	Number of shares	Issue price	\$
1 July 2003	Balance	36,654		100
22 August 2003	Share issue	55	Nil	Nil
27 August 2003	Share issue	95	Nil	Nil
4 September 2003	Share issue	354	Nil	Nil
12 September 2003	Share issue	150	Nil	Nil
1 October 2003	Share issue	116	Nil	Nil
16 October 2003	Share issue	36	Nil	Nil
21 October 2003	Share issue	2	Nil	Nil
30 June 2004	Balance	37,462		100
30 June 2005	Balance	37,462		100

The actual number of shareholders at 30 June 2005 was 32,978.

### Note 17. Retained surplus

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
Retained surplus at the beginning of the financial year	116,490	107,674
Net surplus/(deficit) attributable to shareholders of Australian Wool Innovation Limited	(13,498)	8,816
Retained surplus at the end of the financial year	102,992	116,490

## Note 18. Financial instruments

### (a) Credit risk exposures

The entity's maximum exposures to credit risk at reporting date in relation to each class of recognised financial asset is the carrying amount of those assets as indicated in the statement of financial position.

The entity has no significant exposures to any concentrations of credit risk.

According to Australian Wool Innovation Limited's Treasury Policy, counterparties for Financial Instruments must have a minimum credit rating A (long term) and A1 (short term) as rated by S&P's Australian Standards.

The company manages all risks by only approving expenditure in Australian dollars with a fixed exchange rate set at the rate prevailing at 4pm the day before any contract is signed.

### (b) Interest rate risk exposures

The entity's exposure to interest rate risk and effective weighted average interest rate by maturity periods is set out in the following table:

2005	Notes	Weighted average interest rate	Floating interest rate	Non interest bearing	Total
		%	\$'000	\$'000	\$'000
<b>Financial assets</b>					
Cash and deposits	6	5.00	252	4	256
Funds under management	6	5.78	100,823	–	100,823
Receivables	7		–	4,232	4,232
Receivables (non-current)	9	6.79	–	–	–
			101,075	4,236	105,311
<b>Financial liabilities</b>					
Trade and other creditors	13		–	(7,585)	(7,585)
Net financial assets / (liabilities)			101,075	(3,349)	97,726
<b>2004</b>					
<b>Financial assets</b>					
Cash and deposits	6	4.75	420	4	424
Funds under management	6	5.57	112,710	–	112,710
Receivables	7		–	5,634	5,634
Receivables (non-current)	9	6.50	–	–	–
			113,130	5,638	118,768
<b>Financial liabilities</b>					
Trade and other creditors	13		–	(6,205)	(6,205)
Net financial assets / (liabilities)			113,130	(567)	112,563

### (c) Net fair value of financial assets and liabilities

#### On-balance sheet

The net fair value of cash and cash equivalents and non-interest bearing monetary financial assets and financial liabilities of the economic entity approximates their carrying amounts.

## Notes to the Financial Statements (continued)

30 June 2005

### Note 19. Remuneration of auditors

	<b>2005</b>	<b>2004</b>
	\$	\$
During the year the auditor of the entity and its related practices earned the following remuneration:		
Audit of financial reports of the entity	75,000	75,000
Other audit-related work	–	6,902
Other assurance services	17,500	98,000
Total audit and other assurance services	92,500	179,902
Taxation	11,902	25,560
Total remuneration	104,402	205,462

As part of the review of Corporate Governance practices, the entity segregated its taxation, internal audit and advisory services from statutory audit within Australia. Since 11 June 2003 it has been the entity's policy to employ PricewaterhouseCoopers on assignments additional to their statutory audit duties only where PricewaterhouseCoopers' expertise and experience with the entity are important.

### Note 20. Commitments for expenditure

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
<b>Other commitments</b>		
Commitments in relation to research and development, technical proving and transfer and, the cost of various goods and services contracted for at the end of the reporting date but not recognised as liabilities, payable:		
Within one year	38,739	32,076
Later than one year but not later than 5 years	27,271	25,488
	66,010	57,564
<b>Lease commitments</b>		
Commitments in relation to leases contracted for at the reporting date but not recognised as liabilities, payable:		
Within one year	733	437
Later than one year but not later than 5 years	877	885
	1,610	1,322
Representing:		
Non-cancellable operating leases	1,610	1,322

## Note 21. Employee benefits

	2005	2004
	\$'000	\$'000
<b>Employee benefit and related on-costs liabilities</b>		
Provision for employee benefits – current (Note 13)	615	555
Provision for employee benefits – non-current (Note 14)	86	105
<b>Aggregate employee benefit and related on-costs liabilities</b>	701	660
<b>Employee numbers</b>	Number	Number
Number of employees at 30 June	73	59
Number of permanent full time contractors at 30 June	1	2
	74	61

## Note 22. Related parties

### Directors

The names of persons who were directors of Australian Wool Innovation Limited at any time during the financial year are as follows:

The Hon I M McLachlan AO  
Mr B P van Rooyen  
Dr C J Abell  
Dr K J Bell  
Mr J D O Boyd  
Mr W B Merriman  
Mr H P Nivison  
Mr P S Sykes

Except for Mr W B Merriman who was appointed on 19 November 2004, all of these persons were also directors during the year ended 30 June 2004.

### Remuneration

Information on remuneration of directors is disclosed in the Directors' Report.

### Directors' interests in contracts

During the year ended 30 June 2005 no director, or director related entity entered into a contract or had any transactions on other than normal terms and conditions with Australian Wool Innovation Limited.

### Other transactions with directors and director related parties

There were no other transactions with directors or director related parties during the year ended 30 June 2005.

## Notes to the Financial Statements (continued)

30 June 2005

### Note 23. Economic dependency

Australian Wool Innovation Limited is dependent upon receipt of Wool Levy through the Commonwealth Government who collect the levy and provide the funds in accordance with the Statutory Funding Agreement.

### Note 24. Events occurring after reporting date

There were no material financial events that occurred after reporting date that have not been included in the financial report.

### Note 25. Reconciliation of surplus from ordinary activities to net cash inflow from operating activities

	<b>2005</b>	<b>2004</b>
	\$'000	\$'000
(Deficit)/Surplus from ordinary activities	(13,498)	8,816
Depreciation and amortisation	784	806
(Profit)/Loss on sale of property, plant and equipment	67	(121)
Change in operating assets and liabilities		
Decrease (increase) in trade debtors	759	(846)
Decrease (increase) in prepayments	121	(227)
Decrease (increase) in other operating assets	(984)	4
Decrease (increase) in accrued wool levy	664	(1,923)
Decrease (increase) in other debtors	(19)	(445)
Increase (decrease) in creditors	1,380	(7,089)
Increase (decrease) in provisions	41	(1,374)
Net cash inflow/(outflow) from operating activities	(10,685)	(2,399)

# Directors' declaration

30 June 2005

The directors declare that the financial statements and notes set out on pages 67 to 80:

- (a) comply with Accounting Standards, the *Corporations Regulations 2001* and other mandatory professional reporting requirements; and
- (b) give a true and fair view of the company's and the consolidated entity's financial position as at 30 June 2005 and of their performance, as represented by the results of its operations and of their cash flows, for the financial year ended on that date.

In the directors' opinion:

- (a) the financial statements and notes are in accordance with the *Corporations Act 2001*; and
- (b) there are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the directors.



I M McLachlan  
Chairman

Sydney  
16 September 2005

## Independent audit report to the members of Australian Wool Innovation Limited

### Matters relating to the electronic presentation of the audited financial report

This audit report relates to the financial report of Australian Wool Innovation Limited (the Company) for the financial year ended 30 June 2005 included on the Australian Wool Innovation Limited web site.

The Company's directors are responsible for the integrity of the Australian Wool Innovation Limited web site.

We have not been engaged to report on the integrity of this web site. The audit report refers only to the financial report identified below. It does not provide an opinion on any other information which may have been hyperlinked to/from the financial report. If users of this report are concerned with the inherent risks arising from electronic data communications they are advised to refer to the hard copy of the audited financial report to confirm the information included in the audited financial report presented on this web site.

### Audit opinion

In our opinion, the financial report of Australian Wool Innovation Limited:

- gives a true and fair view, as required by the *Corporations Act 2001* in Australia, of the financial position of Australian Wool Innovation Limited as at 30 June 2005, and of its performance for the year ended on that date, and
- is presented in accordance with the *Corporations Act 2001*, Accounting Standards and other mandatory financial reporting requirements in Australia, and the *Corporations Regulations 2001*.

This opinion must be read in conjunction with the rest of our audit report.

### Scope

#### The financial report and directors' responsibility

The financial report comprises the statement of financial position, statement of financial performance, statement of cash flows, accompanying notes to the financial statements, and the directors' declaration for Australian Wool Innovation Limited (the company), for the year ended 30 June 2005.

The directors of the company are responsible for the preparation and true and fair presentation of the financial report in accordance with the *Corporations Act 2001*. This includes responsibility for the maintenance of adequate accounting records and internal controls that are designed to prevent and detect fraud and error, and for the accounting policies and accounting estimates inherent in the financial report.

### Audit approach

We conducted an independent audit in order to express an opinion to the members of the company. Our audit was conducted in accordance with Australian Auditing Standards, in order to provide reasonable assurance as to whether the financial report is free of material misstatement. The nature of an audit is influenced by factors such as the use of professional judgement, selective testing, the inherent limitations of internal control, and the availability of persuasive rather than conclusive evidence. Therefore, an audit cannot guarantee that all material misstatements have been detected. For further explanation of an audit, visit our website <http://www.pwc.com/au/financialstatementaudit>.

We performed procedures to assess whether in all material respects the financial report presents fairly, in accordance with the *Corporations Act 2001*, Accounting Standards and other mandatory financial reporting requirements in Australia, a view which is consistent with our understanding of the company's financial position, and its performance as represented by the results of its operations and cash flows.

We formed our audit opinion on the basis of these procedures, which included:

- examining, on a test basis, information to provide evidence supporting the amounts and disclosures in the financial report, and
- assessing the appropriateness of the accounting policies and disclosures used and the reasonableness of significant accounting estimates made by the directors.

Our procedures include reading the other information in the Annual Report to determine whether it contains any material inconsistencies with the financial report.

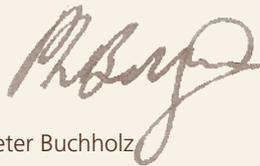
While we considered the effectiveness of management's internal controls over financial reporting when determining the nature and extent of our procedures, our audit was not designed to provide assurance on internal controls.

Our audit did not involve an analysis of the prudence of business decisions made by directors or management.

#### **Independence**

In conducting our audit, we followed applicable independence requirements of Australian professional ethical pronouncements and the *Corporations Act 2001*.

PricewaterhouseCoopers



Peter Buchholz  
Partner

Sydney  
16 September 2005



appendixes



## Appendix A – Project list

The projects listed below are those projects which were underway during 2004/05; full contract values are over the life of the project and paid amounts are charged to the Statement of Financial Performance during 2004/05 (see page 62).

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
Profitable Grazing for Wool Sheep	Benchmarking with GrassGro	CSIRO Plant Industry	Dec 02	May 06	390	106
	Decision Support Tools to Enhance Wool Producers' Profitability	The University of New England	Jun 02	Jun 05	352	100
	Decisions on Stock Made Easy	NSW Department of Primary Industries	Feb 05	Mar 05	55	57
	Developing New and Innovative Perennial Lotus Species for Grazing Systems	NSW Agriculture	Aug 02	Feb 08	1,267	237
	Effective Biological Control of Paterson's Curse and Thistles	CSIRO Entomology, Agriculture Western Australia, Dept of Natural Resources & Environment, Dept of Sustainability and Environment, DPS Strategy Pty Ltd, Meat & Livestock Aust, NSW Agriculture, NSW Department of Primary Industries, SARDI	Apr 98	Jun 05	1,740	789
	Grain and Graze	Land and Water Australia	Oct 04	Oct 07	3,000	750
	Improved Farming System for Degraded Soil in High Rainfall Zone of SE Australia	NSW Department of Primary Industries, NSW Agriculture, Cummings Pasture Service	Jan 04	Sep 04	346	107
	Increased Adoption of TIMERITE to Improve Feed Utilisation	CSIRO Entomology, Channel Enterprises Pty Ltd	Mar 03	Jul 04	144	80
	Increased Investment in NAPLIP	SARDI, Applied Economic Solutions Pty Ltd	Jul 03	Jun 06	1,376	474
	Lifetime Wool Production	Dept of Primary Industries	Oct 03	Sep 08	6,423	1,850
	Lower Cost Rehabilitation of Weed-Infested and Degraded Native Grasslands	University of Sydney	Jun 04	Mar 05	62	58
	NAPLIP (High Rainfall Zone) Pastures Research On Farm	Dept of Primary Industries	Nov 00	Jun 05	442	117
	NAPLIP (Sheep/Cereal Zone)	Grain Research Development Corp	Mar 01	Sep 05	1,120	577
	National Annual Pasture Legume Improvement Program (NAPLIP) Coordination 2003–2006	Abbott Innovation Pty Ltd, Grains Research & Development Corporation, Sefton & Associates Pty Ltd	Jul 03	Jun 06	81	7
	Pasture Demonstration Sites Scoping Study	RPC Solutions Pty Ltd	Dec 04	Dec 05	67	42
	Phalaris Improvement	CSIRO Plant Industry	Dec 00	Dec 07	611	89
	Plant Breeding Co-ordinator	Abbott Innovation Pty Ltd	Sep 04	Aug 05	100	61
	Predicting Pasture Growth Rate	CSIRO Livestock Industry	Sep 03	Oct 04	475	*
	Soil Biology Program	R J Hannam & Co Pty Ltd	Jul 03	Jun 06	1,125	550
	Surface-Applied Lime to Ameliorate Acid Soils	NSW Agriculture, NSW Department of Primary Industries	Jul 04	Oct 04	517	110

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Survey of Farm Financial Performance in the Sheep Industry 2004 & 2005	Australian Bureau of Agriculture Resource Economics (ABARE)	Oct 03	Aug 05	644	367
	Use of Stockplan to Manage the Production, Social and Environmental Impacts of Climate Variation	NSW Agriculture	Apr 04	Sep 05	181	*
	Validation and Communication of Evergreen Farming Systems	Evergreen Farming	May 04	Apr 07	528	132
	NSW Agriculture Review	Ecoservices Pty Ltd, Robbie Sefton	Dec 01	Oct 04	73	*
Natural Resource Management	Land, Water & Wool	Land and Water Australia	Dec 01	Jun 06	19,153	4,850
Animal Health and Welfare	A Future for Wet Dipping with Diazinon	NSW Agriculture	Jul 04	Apr 06	64	*
	Delivery of Chemical Lures for Improved Control of Feral Canids	Pestat Ltd	Oct 04	Jan 06	260	60
	Depilation Technologies	The University of Adelaide	Sep 03	Aug 04	105	26
	Develop and Conduct a Generic Study into Worker Exposure to Ectoparasiticides	National Farmer's Federation Limited	Mar 02	Aug 04	399	44
	Development and Augmentation of Poison Baits with Enhanced Canid Specification	Pest Animal Control CRC	Feb 03	Feb 06	3,178	844
	Development and Field Validation of a Lice Detection Test	NSW Agriculture	Apr 03	Apr 05	374	187
	A Vaccine for Wool Production	CSIRO Livestock Industry	Jan 03	Dec 10	4,552	1,230
	EcoWool – Integrated Parasite Management	The University of New England	Aug 03	Jan 07	2,711	965
	Emerging Resistance to IGRS – A Constraint to Effectively Fly and Lice Control on Sheep	NSW Agriculture	Apr 04	Mar 06	157	*
	Enhancing Australia's Diagnostic and Surveillance Capabilities for Diseases (Sheep & Goat Pox) Caused by Capripox Viruses	CSIRO Livestock Industry	Nov 03	Nov 06	1,416	590
	Environmentally Friendly Insecticides Targeting the Sheep Blowfly Ecdysone Receptor	CSIRO Livestock Industry	May 05	May 08	1,615	55
	Eradication of Virulent Footrot	Agriculture Western Australia	Sep 02	Sep 05	412	86
	Feasibility of Intradermal Chemical Treatments as an Alternative to Mulesing	Veterinary Health Research Pty Ltd	May 05	Nov 05	60	9
	Flystrike Data Analysis	CSIRO Entomology	Apr 04	Apr 05	169	117
	Formulations of Collagenase to Use in the Non-surgical Mulesing Project	Victorian College of Pharmacy	Mar 05	Mar 06	101	*
	Fungal Biopesticide Control of the Australian Sheep Blowfly and the Sheep Body Louse	Queensland Government Dept of Primary Ind	Nov 04	Mar 06	301	150
	Improved Footrot Diagnosis	The University of New England, MAC Stats & Analysis	May 02	Sep 04	302	60

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Increased Resources for Mulesing Alternative Project and Other High Priority Research Projects at the University of Adelaide	The University of Adelaide	Mar 05	Dec 09	1,372	137
	Interlaboratory Pesticide Residue Proficiency Testing Program	National Residue Survey	Feb 05	Feb 08	98	16
	Invetech Mulesing Applicator Development	Invetech Operations Pty Ltd	Jun 05	Nov 05	351	66
	IPM Lice Management Model	Queensland Government Dept of Primary Ind	Jul 04	Jun 07	504	94
	Multi-Species Wormworld	CSIRO Livestock Industry, Agriculture WA	May 00	Feb 05	210	21
	National Mulesing Accreditation Program	Agriculture Western Australia	Jan 04	Mar 07	285	50
	Permanent Wool Removal	The University of Adelaide	Feb 02	Aug 04	437	128
	Pesticide Residue Testing for Quality Assurance Groups Services C/T A	Australian Wool Testing Authority Ltd, CSIRO Textile and Fibre	Sep 01	Apr 05	268	23
	Anthelmintic Investigation and Other Pharmaceutical Consultancy Services	Baron Strategic Services Pty Ltd	Oct 02	Dec 04	98	29
	Pesticide Residue Testing Survey 2004/2005	CSIRO Textile & Fibre	Sep 04	Aug 05	117	60
	Project Management 'Alternative to Mulesing'	Dr J Rothwell, Genesis Industries (Australia) Pty Ltd	Jun 04	Dec 04	234	125
	Reducing Pain from Mulesing	CSIRO Livestock Industry	Jan 04	Jan 05	100	100
	Revisiting the Mules Operation	University of Sydney	May 05	Jul 08	319	48
	Stuart Barber Secondment	McKinnon Project	Sep 04	Sep 05	68	28
	Target Identification in Lucilia Cuprina and Analysis in Both Blowfly and Lice	University of Melbourne, Massey University	Oct 04	Feb 08	1,482	335
	Veterinary Pharmaceutical and Toxicological Support Services for the AWI Animal Health and Welfare Program	Advanced Veterinary Therapeutics	Sep 03	Jan 06	167	83
	WormBoss Marketing Communications	Currie Communications	Mar 05	Jun 05	55	45
	WormMaster Coordination	Mike Stephens & Associates Pty Ltd	Nov 02	Sep 04	239	56
	Applidyne Mulesing Mechanisms	Applidyne Pty Ltd	Apr 05	Jul 05	100	140
	Biological Control of Sheep Lice with Entomopathogenic (Insect-killing) Nematodes	Queensland Government Dept of Primary Ind	Nov 04	Nov 05	72	42
	Breech Strike Prevention Technology	CSIRO Livestock Industry	Apr 00	Aug 05	256	*
	Characterisation of the Relationship Between Scouring and Genetic Resistance	CSIRO Livestock Industry, Agriculture WA	May 00	Oct 04	127	*
	Commercialisation of Improved Footrot Diagnosis	The University of New England	Mar 05	Mar 08	441	20

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
Molecular Genetics	Acting Chief Operations Officer for the MLA/AWI Sheep Genomics Program	Bonket Pty Ltd, Meat & Livestock Aust	Jan 05	Mar 05	73	64
	Andrew Parratt Consultancy for AWI Molecular Genetics	Darvat Pty Ltd	Apr 04	Aug 04	82	79
	Crutchless Mutation	The University of Adelaide, S F + T J Wildman, P A & J L Webb, P Mills, Meat & Livestock Aust, Lincoln Veterinary Centre, Calcookara Stud	Dec 04	Mar 06	118	114
	Development of Gene Silencing in the Parasitic Nematode Haemonchus Contortus	Meat & Livestock Aust	Jan 03	Jan 06	271	97
	Development of In Vitro Assays Measuring Resistance to Nematode Infection in Sheep	University of Melbourne	Jul 04	Jul 07	187	62
	Discovering Genes Involved in Resistance to Gastrointestinal Nematodes (GIN) in Sheep – Candidate Gene Approach	CSIRO Livestock Industry	Feb 04	Feb 07	186	27
	Discovery of Genes Involved in Resistance to Gastro-intestinal Nematodes in Sheep – High Throughput Identification of Genes Involved in Resistance to GIN	CSIRO Livestock Industry	Jun 04	Dec 06	304	43
	Economic Evaluation of Pathways for Change	BDA Group	Feb 04	Jul 04	60	57
	Expression Profiling and Gene Discovery in the Wool Follicle – Characterisation of the Spatiotemporal Programme of Expression of Key Molecules Involved in Wool Follicle and Accessory Gland Development and Function	The University of Adelaide, Meat & Livestock Aust	Jul 04	Jun 07	299	137
	FMFS Mapping Flock – FEC Phenotyping	CSIRO Livestock Industry, Meat & Livestock Aust	May 05	Sep 08	156	*
	Genotyping Sheep with Diversity Arrays	Centre for the Application of Molecular Biology to Intern Agriculture, Future Livestock Pty Ltd	Nov 02	Dec 04	358	86
	Golden Ram	The University of New England	Jul 02	Nov 05	950	160
	Identification of Therapeutic Molecules for Increasing Follicle Density and Reducing Follicle Appendage Formation	The University of Adelaide	Mar 04	Mar 07	391	268
	Analysis of Sheep, Haemonchus Contortus Relationship	Meat & Livestock Aust	Jun 03	Apr 06	274	53
	Detection of Genes Which Significantly Influence Parasite Resistance and Skin and Wool Attributes – Part 1 Gene Mapping	CSIRO Livestock Industry	Jul 03	Nov 06	274	*

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Development of Cellular Resources to Support Expression Profiling and Proteomic Studies in Defined Genotypes / Muscle and Energy Utilisation Sub-Program Project 4	University of Melbourne	Jun 03	Aug 06	157	100
	Drug Discovery in Sheep Nematodes by Functional Genomics in Caenorhabditis Elegans	Meat & Livestock Aust	Jun 03	Mar 06	225	171
	Enabling Technologies to Advance Research into Control of Internal Parasites of Sheep	Meat & Livestock Aust	Jun 03	Mar 06	156	57
	End Sequence 56,000 Selected Clones from the CHORI-243 Ovine BAC Library	Meat & Livestock Aust	Apr 04	Apr 06	180	*
	Extension of Sheep Gene Map and Associated Tools	Meat & Livestock Aust	Nov 02	Dec 05	120	100
	Identification of Major Genes and Proteins Responsible for Muscle Hypertrophy and Leanness in Callipyge and Carwell Sheep	CSIRO Livestock Industry	Jan 04	Jan 07	225	75
	MEUSP Proteomics	Meat & Livestock Aust	Feb 04	Dec 06	232	38
	Muscle and Energy Utilisation Sub-Program Intelligence Unit	University of Western Australia	Mar 04	Jan 06	88	50
	Novel Approaches for Control of Sheep Nematode Parasites	Meat & Livestock Aust	Jun 03	Mar 05	299	58
	Novel Approaches for Control of Sheep Nematode Parasites	Meat & Livestock Aust	Jan 04	Oct 06	425	84
	Parasitology Research Program Development and Coordination	Meat & Livestock Aust	Jul 03	Jul 06	71	*
	SGP Sub-Program Leader Core Technologies	Meat & Livestock Aust	Dec 04	Dec 07	147	*
	The Molecular Genetics of Meat Production in Sheep: New Genes that Affect Muscle Phenotypes	Meat & Livestock Aust	Mar 04	Jun 05	130	74
	Toward Novel Approaches for the Control of Parasitic Nematodes of Sheep	Gene Type Pty Ltd	Jun 03	Apr 05	245	75
	Validation of Putative Drug Targets for Control of Haemonchus Contortus	Meat & Livestock Aust	Aug 04	Aug 07	111	79
	Validation of Thoil Metabolism as a Drug Target for Parasitic Nematodes	Meat & Livestock Aust	Mar 03	Apr 05	275	45
	MLA-AWI Sheep Genomics Program Mapping Flock: FMFS	Future Livestock Pty Ltd	Oct 04	Jan 07	507	235
	Mutants and Genetic Extremes for Gene Discovery	The University of Adelaide	Jul 04	Jun 07	95	45
	Ovine Proteins Potentially Involved in Host Resistance to Gastrointestinal Nematodes	CSIRO Livestock Industry	Sep 04	Sep 06	125	63

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
Applied Genetics	Secondary Wool Follicle Development	CSIRO Livestock Industry	Feb 04	Aug 07	168	27
	SGP Sub-Program Leader HRIP	Meat & Livestock Aust	Apr 05	Jun 08	144	*
	SGP Sub-Program Leader Muscle and Energy	Meat & Livestock Aust	Apr 05	Jun 08	173	*
	Wool Biology SPL for SGP	The University of Adelaide	Apr 05	Jun 08	276	34
	Phenotypic Characterisation of Sheep Genetic Variants	CSIRO Livestock Industry, University of Western Australia	Oct 03	Dec 05	317	132
	Analysis and Reporting of National Merino Sire Evaluation	University of Melbourne	Aug 04	Jul 06	420	249
	Australian Sheep Genetics Database Management	Meat & Livestock Aust	Apr 04	Jun 05	880	285
	AWI Funding of Sheep CRC Wool Sciences and Production Sub-Program 2004/05	Sheep CRC	Jul 04	Jun 05	293	293
	Investigate and Apply Innovation in Merino Sire Evaluation	Australian Merino Sire Evaluation (AMSEA)	May 05	Dec 07	271	8
	National Merino Bloodline Evaluation (Support, Analysis and Research)	NSW Department of Primary Industries	Dec 04	Jun 09	445	39
	OFFM Extension & adoption	GMAC Consulting Pty Ltd, Currie Communications P/L, International Fibre Centre Limited, NSW Agriculture, Roberts Evaluation Pty Ltd, South West Institute of TAFE	Dec 02	Mar 06	1,058	557
	On-Farm Yield Prediction	Interactive Wool Group Pty Ltd	Nov 04	Jul 05	101	37
	Operational and Administrative Support for Merino Sire Evaluation in Australia	University of Melbourne	Feb 03	Mar 06	132	43
	SARDI Selection Demonstration Flock	SARDI	Oct 01	Dec 05	1,411	331
	Wool Harvesting	Understanding the Breeding Decisions of Merino Wool Producers	Dept of Primary Industries	Mar 04	Feb 06	220
Visual Traits in Across Flock Genetic Evaluation		NSW Department of Primary Industries	Jul 05	Jul 06	82	*
Estimating Market Demand for a Series of Shearing Platform System Concepts		TQA Research	Jun 04	Dec 04	172	68
Evaluation of Electro-Immobilisation Technology		CSIRO Livestock Industry	May 05	Oct 05	53	*
Improve Crutching Trailers		Kondinin Group Incorporated	Jun 05	Nov 05	75	*
Project Manager – Shearer & Wool Handler Training		Ross A Pollock, Peter Hanrahan Consulting Pty Ltd	May 04	May 05	189	191
Shearer & Wool Handler Training – NSW		Wool Industry Training Australia Pty Ltd, TAFE NSW – Western Institute, Agforce Queensland	Jul 04	Jun 05	253	83

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Shearer & Wool Handler Training – SA	Ausgrow Training, TAFE SA	Jul 04	Jun 05	69	34
	Shearer & Wool Handler Training – VIC	SCAA Shearer Shedhand Training Incorporated, Gordon Institute of TAFE, University of Melbourne	Jul 04	Jun 05	101	63
	Shearer & Wool Handler Training – WA	Great Southern Regional TAFE, WA Shearing Contractors Association Inc (WASCA), Western Aust. Farmers Federation (Inc)	Jul 04	Jun 05	211	141
	Shearer & Wool Handler Training Evaluation	Field Learning Pty Ltd	Oct 04	Jul 06	196	105
	Shearer & Wool Handler Training Resource & Professional Development	DNR Group Pty Ltd, TAFE NSW – Western Institute, Sports Shear Queensland Inc, Sheep CRC, Lens & Shutter Pty Ltd, Field Learning Pty Ltd, D & K Billingham, Allen White	Jun 04	Jun 05	229	213
	Shearing Exhibition/Training Centre	Shear Outback, Sefton & Associates Pty Ltd	Jan 02	Jan 05	327	55
	Shearing Shed OH&S and Productivity Guidelines	Miracle Dog P/L	Apr 05	Jul 05	80	*
	Skunkworks – Technology Review – Chemical/Biological Harvesting – Stage 2	Miracle Dog P/L	Jun 05	Dec 05	102	*
	Skunkworks – Technology Review – Mechanical	PD Analytical Pty Ltd	Mar 05	Jun 05	54	47
	UPSP Stage 1 – UPSP Suppliers & Technical Consultants	ManuTech (VIC) P/L, Allen White, Animal Welfare Science Centre, Bearfacts Consulting Pty Ltd, Catford Engineering, Michael Lawrance and Associates Pty Ltd, Peak Hill Industries Pty Ltd, Prattley Industries Ltd, Shearing Industry Consultants, SLAMP Ltd, Tectra Limited	Apr 04	Jun 06	1,034	1,136
	Wool Harvesting OH&S Injury Evaluation	Michael Lawrance and Associates Pty Ltd	Feb 05	Aug 06	56	15
	Wool Harvesting Technologies Search	ManuTech (VIC) P/L	Sep 03	Sep 05	548	252
Education and Adoption	8x5 Wool Profit Program – TAS Extension Program	University of Tasmania	May 02	Feb 06	1,996	478
	Australian Agriculture and Natural Resources On-Line (AANRO)	Dept of Primary Industries, Dept of Natural Resources & Environment	Jun 01	Jun 06	57	18
	Australian Rural Leadership Program – (ARLP)	Australian Rural Leadership Foundation Limited	Nov 03	Jan 06	89	46
	Australian Wool Textile Training	International Fibre Centre Limited, The Woolmark Company Pty Ltd	Aug 04	Nov 04	53	53
	AWI International Student Exchange Program	International Wool Textile Organisation	Oct 04	Sep 06	135	100
	AWI/CRC On-Farm Scholarships	Sheep CRC	May 05	Jun 08	1,200	538

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Bestprac	NSW Department of Primary Industries, Agriculture Western Australia, NSW Agriculture, Rural Directions Pty Ltd, Queensland Government Dept of Primary Ind	Jan 00	Sep 04	140	47
	Bestprac Phase II – Rangelands Extension Program	Rural Directions Pty Ltd	May 03	May 06	1,009	428
	Bestwool 2010 Phase II – VIC Extension Program	Dept of Primary Industries	Jul 02	Jun 05	1,400	750
	Co-operative Venture for Capacity Building for Innovation in Rural Industries	Rural Industries R & D Corp	Jul 03	Jun 06	50	50
	Develop a Specialised Approach to Recruiting Wool Producers into Extension and Adoption Activities	J T Agri-Source Pty Ltd	Jan 05	May 06	172	62
	Development and National Delivery of Multi Media Wool University Degree Units	The University of New England	Oct 03	Oct 06	415	217
	Development of Triple P Beyond the Paired Paddock	Mike Stephens & Associates Pty Ltd	Sep 01	Jun 05	336	16
	Farm Health and Safety Joint Venture 2002/2003 to 2006/2007	Rural Industries R & D Corp	Jul 02	Sep 07	300	180
	Leading Sheep – QLD Extension Program	Dept of Primary Industries & Fisheries, QLD Government, John McKenzie & Associates Pty Ltd	Sep 04	Aug 07	999	298
	Limited Evaluation of AWI Projects – On-Farm & Off-Farm	Hassall & Associates Pty Ltd, Apical International Pty Limited	May 04	Jul 04	55	37
	look @ Wool – SA Extension Program	Primary Industries and Resources SA	Sep 03	Jun 06	376	200
	Modification and National Distribution of “Phosphorus for Sheep and Beef Pastures” Brochure	Agriculture Victoria Services Pty Ltd	Jan 03	Jun 05	291	218
	Network for High Performing Producers	University of Melbourne	Nov 04	Dec 05	224	147
	Nuffield Scholarship	Australian Nuffield Farming Scholars Association	Nov 03	Oct 06	90	*
	Project Manager – Grower Adoption Programs	Peter Hanrahan Consulting Pty Ltd	Apr 04	Apr 05	182	99
	Scholarship and Studentship Program	Various	Jul 03	Jun 08	2,067	714
	The Cicerone Project – Phase II	The Cicerone Project Inc, RPC Solutions Pty Ltd	Jun 04	Jul 05	179	179
	The Sheeps Back – WA Extension Program	JRL Hall & Co	Sep 04	Jun 07	1,005	437
	Wool 4 Wealth – NSW Extension Program	Mike Stephens & Associates Pty Ltd, John McKenzie & Associates Pty Ltd	Nov 04	Nov 07	1,835	789
	Wool Science Capacity	Sasmai Pty Ltd, Hassall & Associates Pty Ltd	Feb 05	Jun 05	91	56

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	WoolPro in Schools	Agriculture Western Australia	Mar 04	Feb 05	90	90
	WWWoolEx: The AWI Wool Apparel and Textile Processing Internet Portal	Christoe Consulting, Apical International Pty Limited, Australian Wool Testing Authority Ltd, CSIRO Textile & Fibre, Dr Peter Lamb, Fresh Web Solutions Pty Ltd, Judy Turk Consulting, Right Now Technologies, Teckel Consulting Pty Ltd, TWC	Jul 04	Oct 05	439	270
Fundamental Wool Science	Causes and Consequences of Yarn Instability	CSIRO Textile & Fibre	Aug 04	Aug 07	1,169	307
	Merino Wool Structural Database – CSIRO	CSIRO Textile & Fibre, The University of Adelaide	Apr 03	Oct 04	134	37
	Photoyellowing – Canesis	Canesis Pty Ltd, The University of Adelaide	Apr 03	Aug 05	463	186
	Characterisation and Modification of the Proteolipid Surface of Wool – CSIRO	CSIRO Textile & Fibre, The University of Adelaide	Mar 03	Oct 05	1,244	323
	Fibre Surface and Cuticle Studies – DWI	DWI, Dept of Primary Industries, The University of Adelaide	Dec 02	Dec 05	828	204
	Fibre Surface and Cuticle Studies – WRONZ	Canesis Pty Ltd, The University of Adelaide	May 03	Aug 06	1,323	473
	Fibre Surface and Cuticle Studies – CSIRO	CSIRO Textile & Fibre, The University of Adelaide	Dec 02	Dec 05	294	84
	Element Mapping of Wool Fibre Morphological Components – DWI	DWI, The University of Adelaide	Dec 02	Dec 05	520	128
	Fibre Ultrastructure and Cellular Morphology – WRONZ	Canesis Pty Ltd, The University of Adelaide	Apr 03	Aug 06	1,143	205
	Brighter White Wool – CSIRO	CSIRO Textile & Fibre, The University of Adelaide	Dec 02	Nov 04	836	236
	Brighter White Wool – DWI	DWI, The University of Adelaide	Dec 02	May 05	470	77
	Soft Wool	DWI	Jul 05	Jul 08	495	*
Improved Appearance Retention	Fundamental Aspects of Pilling	CSIRO Textile & Fibre	Apr 05	Oct 05	75	*
	Machine Wash, Tumble Dry Bedding Covers	TWC	Jan 01	Sep 04	226	4
	Machine Wash Wool Blankets	TWC	Jan 02	Sep 04	238	4
	Protein Production	CSIRO Textile & Fibre	Jan 05	Jan 06	257	*
	Torque Free Singles Worsted Yarns	Hong Kong Polytechnic University	Mar 05	Jun 06	425	38
	Garment Treatment for Easy Care Wovens	TWC	Oct 02	Oct 04	479	136
	Improvements to the Sirosett Process for Crease Stabilisation	TWC	Oct 02	Jul 05	537	125
	Total Easy Care Jacketings	TWC	Apr 02	Jan 06	546	26
	Low Pill Knitwear	TWC	Oct 04	Jun 06	550	37
	High Lightfastness Dyeings for Wool Fabrics	Canesis Pty Ltd	Sep 02	Jun 05	640	154

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
New Markets for Australian Merino Wool	Washable Australian Merino Wool Knitwear in the USA	TWC	May 04	Nov 06	949	447
	Wool Coatings	CSIRO Textile & Fibre	May 05	Dec 06	950	*
	A Total Colour Solution for Wool and Wool Blend	Canesis Pty Ltd	Jun 05	Jun 07	1,123	*
	Permanent Bright Shades for Wool – Development Phase	CSIRO Textile & Fibre	Jul 03	Dec 05	1,215	397
	A Scoping Study for the Production and Marketing of High Quality Wool-Cotton Blends in India	CSIRO Textile & Fibre, TWC	Jun 05	Sep 05	52	*
	Akira Isogawa	Akira Isogawa Designs	Mar 05	Feb 06	60	40
	Application of Wool in Bullet Proof Vest Sector	RMIT University	Dec 04	Dec 06	460	55
	Branded Merino Performance Work Wear	Pennygreen Marketing Pty Ltd	Feb 05	Apr 05	55	52
	Coloured Conductive Textiles	Deakin University	Jul 02	Dec 05	1,354	390
	Commercialisation of Nonwovens – Sampling to Initial Partners	Canesis Pty Ltd	Jun 05	Aug 06	89	*
	Continuous Wool Blend Filament	Deakin University	Jul 02	Dec 05	1,975	510
	Corporate Wear – Business to Business	TWC	Apr 05	Apr 07	665	24
	Easy Care & Wear Shawl	TWC (India)	Mar 05	May 06	250	42
	Electrospun-Membrane Wool Composite Fabrics	CSIRO Textile & Fibre	Apr 04	May 05	340	215
	Electrostatic Wool Filters	CSIRO Textile & Fibre	Apr 03	Jul 05	1,145	457
	Heated Wool Bedding	Canesis Pty Ltd	Jun 02	Aug 04	578	35
	Heated Wool Sock Technology Transfer and Commercialisation	Canesis Limited (Europe)	Dec 04	Dec 05	222	*
	High Performance Lining System for Suits & Workwear	TWC	Apr 02	Nov 04	460	*
	High Visibility Wool Garments	Canesis Limited (Europe)	Oct 03	Sep 05	532	238
	Injury Prevention	CSIRO Textile & Fibre	May 05	Dec 05	242	*
	Innovative Pure Merino and Merino Blend Woven Fabrics for Ladies Apparel and Menswear Markets	Canesis Pty Ltd, Zhangjiagang Yangtse Spinning	Apr 05	Feb 07	659	9
	Introducing Wool to Automotive Upholstery	Apical International Pty Limited	Dec 04	Dec 06	283	35
	IWTO Worldwide Retailer Study / Market Research Project	IWTO	Feb 04	Jul 04	100	33
	Merino Super Soft for Fully Fashioned Knitwear in Europe	TWC	May 05	Oct 06	873	*
Merino Supersoft	ABMT, Zhangjiagang Yangtse Spinning	Apr 05	Dec 05	177	27	
Nanowool	CSIRO Textile & Fibre	Sep 03	Sep 04	700	222	

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Natural Machine Washable Wool Fabrics	Canesis Pty Ltd	Jun 05	Aug 06	181	*
	New Wool Micro-Fibre Blends	CSIRO Textile & Fibre	Apr 05	Oct 06	538	*
	Non Woven Umbrella Project	Canesis Pty Ltd	Jan 01	Sep 04	6,000	250
	Nonwoven Machinery Joint Venture	Macquarie Textiles Group Limited	Jul 02	Jul 04	1,501	*
	Nouveau Classique	TWC	Nov 04	Oct 07	1,505	159
	Novel Knit Fabric Development and Commercialisation	Canesis Pty Ltd	Oct 04	Mar 05	1,036	989
	Ph.D Scholarship: Finishing Very Light Weight Wool Fabric	Canesis Pty Ltd	Sep 02	Jun 06	182	81
	Post Doctoral Research Scholarship On Smart Textiles	Canesis Pty Ltd	Dec 02	Dec 04	304	68
	Producing Micro-Particles from Wool Proteins	DWI	Sep 03	Aug 04	246	62
	Sensory Fabric for Ubiquitous Interfaces	Brunel University	Dec 02	Apr 05	978	30
	Smart Yarn Development	TWC	Apr 02	Feb 05	676	50
	Sportwool Fleece	TWC	Apr 02	Aug 04	400	21
	Spunlace Wool Nonwovens	CSIRO Textile & Fibre	May 04	Aug 05	599	350
	Super White Wool/Polyester Blend Fabrics	CSIRO Textile & Fibre	Apr 05	Aug 06	145	*
	Technical Consultancy	Bob Mayfield	Jun 04	May 05	72	46
	Technical Marketing Packages for Textile Marketing Platforms	CSIRO Textile & Fibre	Apr 05	Jun 06	377	*
	The Surf and Action Sports Apparel Market	Andrew F Rich	Jul 04	Dec 04	59	57
	Non Woven Hydroentanglement (Spunlace)	TWC	Jan 01	Nov 04	683	*
	Short Staple Blends	TWC	Jan 01	Sep 04	645	*
	Sportwool Outdoor	TWC	Feb 02	Sep 04	889	14
	Trans-Seasonal Textile Blends	TWC	Aug 04	May 06	1,047	487
	Wool Armourline	University of Leeds	May 05	Sep 06	460	*
	Wool Product Enhancement by Fibre Fibrillation	University of Leeds	Dec 03	Dec 05	803	502
	Woollen Industry Review – A Strategic Review of the Fine Woollen Processing Industry: Technological Challenges and R&D Needs	Canesis Pty Ltd	Jan 05	Jul 05	196	75
Cost Competitive Wool Processing	Top Dyeing into Developing Counties	CSIRO Textile & Fibre	Apr 05	Feb 06	137	*
	Total Easy Care, Superfine Pure Wool Fabrics for the Chinese Domestic Market	Canesis Pty Ltd, Cindy Cui	Nov 04	Jan 06	125	41
	Open Ended Spinning	TWC	Jan 01	Apr 05	212	*

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	UK Innovation Clusters for Supersoft Hosiery, Lingerie and Nightwear	TWC	May 05	Nov 06	534	*
	Valorisation of Sludge from Wool Scouring	Zhangjiagang Yangtse Wool Combing Co Ltd	Oct 02	Jul 04	213	*
	Wool Surface Modification by Excimer Laser	University of Swinburne Industrial Research Institute Swinburn (IRIS)	Jun 05	Dec 05	177	*
	AOX – Free SR Treatment	BENTEC	Dec 04	Mar 06	121	4
	Application by Product Synergy Between Wool Scouring	Curtin University of Technology	Jul 04	Dec 05	60	25
	AWI/DWI Awards	DWI	Sep 02	Dec 07	406	*
	Business Plan for Producing Treated Knitting Yarns in China	Sud Wolle	Sep 03	Sep 04	100	25
	China Australia Wool Innovation Network (CAWIN)	Deakin University	Aug 03	Jan 09	4,985	734
	Consulting on AWI Projects and Programs in Textile Portfolio	Frederick Thomas Finnie	Jun 05	May 06	72	18
	Development of a Scouring Technology Package	CSIRO Textile & Fibre	Nov 03	Oct 05	728	335
	Globalisation of TopMaker and TopSpin	Australian Software for Topmaking	Aug 03	Aug 06	180	9
	High Production Rate Wool Spinning – New Woollen Based System	CSIRO Textile & Fibre	Apr 04	Feb 05	255	217
	High Temperature, Deep Shade, Reactive Dyeing of Wool	University of Leeds	Sep 03	Jun 05	170	102
	Information Management – General – Sampling & Testing	CSIRO Textile & Fibre, Apical International Pty Limited, Canesis Pty Ltd, Capronex Services Pty Ltd, Macquarie Textiles Group Limited, ManuTech (VIC) P/L, The Devotion Group Pty Ltd	Jul 04	Jun 05	191	75
	Medical Textiles	CSIRO Textile & Fibre	Jan 03	Feb 05	884	449
	Merino children The Next Generation	DPK Australia Pty Ltd	Jun 05	Jun 06	266	*
	Microwave Wool Grease Recovery Technologies	Primary Applications Pty Limited	Nov 04	Feb 05	136	59
	Multi-Purpose Finishing of Wool with Selected Oxidants	Peradox Ltd	Jan 05	Jan 06	238	*
	MVS Wool and Wool-Blends	CSIRO Textile & Fibre	Apr 04	May 05	539	539
	Optim Dyeing Technology Transfer	CSIRO Textile & Fibre	Jun 05	Aug 05	59	*
	Performance Plus	TWC	Mar 05	Jun 06	691	187
	Reduced Imperfections in Fine Worsted Yarns	Indo Worth Thailand Ltd	Jun 05	Feb 06	157	–
	Reproducible Wool Dyeing	CSIRO Textile & Fibre	Oct 04	Oct 05	290	144

## Appendix A – Project list (continued)

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Sponsorship 11th International Wool Research Conference	University of Leeds	Oct 04	Sep 05	50	25
	Streakiness in Lightweight Wool Fabrics	CSIRO Textile & Fibre	Aug 03	Jun 05	50	*
	The Australian Wool Fashion Awards (TAWFA)	Australian Wool Fashion Awards Ltd	Dec 04	Dec 07	335	132
	Thermal Comfort of Wool Bedding Products	TWC	Nov 03	Dec 04	160	107
Market Information	Brand Partner Strategy: Australia	The Devotion Group Pty Ltd	Jul 05	Oct 05	60	*
	Demographic Modelling of the Australian Sheep Farming Industries	Dept of Primary Industries, Meat & Livestock Aust	Oct 04	Jun 05	252	*
	Develop Sheep Flock Model (Stage A)	Agriculture Western Australia	Feb 05	Sep 05	71	*
	Flock modelling – Scoping Study and Industry Meeting	Agriculture Western Australia, Ecoservices Pty Ltd	Mar 04	Jan 05	68	58
	Market Intelligence Services	TWC	Apr 05	Apr 06	516	135
	Net Portal for Brand Technical Support	The Devotion Group Pty Ltd	Jun 05	Aug 05	270	10
	New Zealand Merino Supply Chain Business Model for Australia	TMC	Mar 05	Sep 05	350	160
	Pricemaker Software	TWC, AWEX	Jun 01	Jan 05	699	92
	Wool Production Forecasting Committee	TWC	Feb 02	Dec 06	789	163
	Woolcheque Market Pricing Service	Australian Wool Exchange Ltd, Fresh Web Solutions Pty Ltd	Jul 04	Dec 05	196	89
Wool Quality and Logistics	Dark and Medullated Fibre Risk Random Screening Program	Australian Wool Testing Authority Ltd	Jul 04	Jun 05	163	121
	Implementation of Dark & Medullated Fibre Measurement Standards – Stage 2	Australian Wool Industries Secretariat	Feb 04	Sep 04	207	60
	OFDA4000 Comparison on TEAM and Sale Lot Tops	Australian Wool Testing Authority Ltd	Jan 05	Jun 05	106	*
	OFFM evaluation trial	GMAC Consulting Pty Ltd, Teckel Consulting Pty Ltd	Jun 02	Jul 04	485	*
	Project Management for Harvesting, Wool Quality & Logistics Projects	Infodesign Pty Ltd, GMAC Consulting Pty Ltd, Miracle Dog P/L	Sep 02	Sep 05	292	103
	QA Program Implementation AWEX - OFFM Phase two	Australian Wool Exchange Ltd	Feb 04	Feb 05	378	218
	Relationship between Greasy and Processed DMF Contamination Levels	Australian Wool Testing Authority Ltd, SARDI	Sep 04	Mar 06	230	*
	SoftWool Project – Basolan 88 Loose Stock Treatment	Novetex	Jun 05	Jan 06	265	*
	Test for Dark & Medullated Fibre (Canesis)	Canesis Pty Ltd	Mar 03	Oct 04	395	147
	Test for Dark & Medullated Fibre (CSIRO)	CSIRO Textile & Fibre	Dec 02	Sep 04	449	52

Program	Project Title	Provider	Start Date	Finish Date	Full Contract Value (\$'000)	Paid in 2004/2005 (\$'000)
	Test for Dark & Medullated Fibre (IWG)	Interactive Wool Group Pty Ltd	Nov 02	Oct 04	300	53
	Total Easy Care Process and Product with Enhanced Set Effect	TWC	Jun 05	May 06	128	*
Market Access and Trade Development	AWI Australia / China Wool Alignment Study	ITS Global	Nov 04	Jan 05	94	95
	Building Sustainable Growth in Demand for Wool	TWC	Oct 04	May 05	379	351
	China / Australia FTA – Analysing the Impact on Australian Wool of Removing Chinese Trade Barriers	ITS Global	May 05	Jul 05	71	21
	Intissel Woollen Non Woven	Intissel	Jun 05	Aug 06	200	*
	Landscaping Study for Non Auction Selling Systems & Risk Management Options in the Pipeline	Independent Commodity Services, The Mackinnon Project	Nov 04	Feb 05	86	85
	Wool Producer Delivery To Direct Retail Specification	TQW Trading, The Cicerone Project Inc.	Apr 02	Aug 04	187	30
					<b>165,180</b>	<b>45,789</b>
	Commercially confidential projects (3 projects)				1,188	610
	Projects with a value of less than \$50,000 (124 projects)				3,385	1,469
	Corporate Affairs projects (see Note 5 to the Financial Statements on page 70)					8,509
	Ancillary costs					1,321
	<b>Total contract payments</b>					57,698
	Movement in accruals					2,161
	<b>Total RDI expenditure</b>					59,859

\* Work underway; no amounts invoiced during the year ended 30/06/05

## Appendix B – IP Table

Below is a table of registered intellectual property which is owned by AWI or in which AWI has an interest.

Intellectual property title	Registered in Australia	Registered overseas
<b>Patent</b>		
Iron regulated promoter and uses thereof	Y	Y
Semi-automated manipulator for manual shearing	Y	Y
Animal leg restraint	Y	Y
Head restraint for animal manipulator	Y	Y
Doffing animal coat and fleece removal	Y	Y
Sheep handling and manipulation for automated shearing	Y	Y
Docking mechanism for use in treating or shearing animals	Y	Y
Fungal sulphur source and method of using the same	Y	Y
Veterinary formulation	Y	Y
DNA encoding ovine adenovirus and its use as a viral vector	Y	Y
Improving the availability of nutrients in a ruminant using piromyces or neocallimastix fungi	Y	Y
Larval development assay	Y	N
Detection and isolation of, and protective immunisation against, the phomopsin mycotoxins	Y	N
Vaccine and assay	Y	N
Saponin Adjuvant Composition	Y	Y
Method for treating animals	Y	N
Enzyme based bioremediation	Y	Y
Malathion carboxylesterase	Y	Y
Expression of phytase in plants as a method of modifying plant productivity	Y	Y
Fibrillations of natural fibres	Y	Y
Heated Wool Textile	N	Y
Heated Wool Garment System	N	Y
Improved process & Apparatus for stretching Slivers of animal fibre	Y	Y
Protective Screen	Y	N
Synergistic enhancement of microbial pesticides	Y	N
Method of louse control using compositions derived from Bacterium Bacillus	Y	N
Inclined Blade	Y	Y
Control circuit for a power driven tool and touch activated system shearing system incorporating same	Y	Y
Handling apparatus for a quadruped	Y	Y
Limb restraint	Y	Y
Animal handling system	Y	Y
Method of harvesting wool	Y	Y
A restraint	Y	Y
Apparatus for spreading a sheet-like article	Y	Y

100

australian wool innovation limited

Intellectual property title	Registered in Australia	Registered overseas
Animal processing conveyor	Y	Y
Apparatus for use in harvesting wool	Y	Y
Mobile collapsible shelter	Y	Y
Apparatus for supporting an animal and a production line for processing and animal incorporating said apparatus	N	Y
Chemically assisted protein annealing treatment	Y	Y
Sorting pneumatically conveyed material	Y	Y
Continuous pressure decatising of fabrics and setting of staple fibre assemblies	Y	Y
Method for separating keratinous proteins from materials	Y	N
Device for sampling liquids	Y	Y
<b>Registered Design</b>		
A liquid sample collection card	Y	Y
<b>Trademark</b>		
Siromin	Y	N
Si-ro-mark	Y	N
Future Fleece	Y	N
Grassgro	Y	N
Timerite	Y	N
Triple P	Y	N
Woolpro	Y	N
Rampower	Y	N
Wool Profit Map	Y	N
Rural Connect	Y	N
Australian Wool Innovation Limited & Device	Y	Y
Australian Wool Innovation (words only)	Y	Y
Woolpoll & rams head device	Y	N
<b>Plant Variety</b>		
Barrel Medic – Caliph	Y	N
Cefalu Clover – Arrowleaf	Y	N
Yellow Serradella – Santorini	Y	N
French Serradella – Cadiz	Y	N
Persian Clover – Nitroplus	Y	N
Persian Clover – Persian Prolific	Y	N
Serradella – Charano	Y	N
Subterranean Clover – Denmark	Y	N
Subterranean Clover – York	Y	N
Subterranean Clover – Urana	Y	N
Gland Clover – Prima	Y	N
French Serradella – Margurita	Y	N
French Serradella – Erica	Y	N

## Appendix B – IP Table (continued)

Intellectual property title	Registered in Australia	Registered overseas
<b>Plant Variety</b>		
Barrel Medic – Jester	Y	N
Burr Medic – Cavalier	Y	N
Burr Medic – Scimitar	Y	N
Balansa Clover – Bolta	Y	N
Balansa Clover – Frontier	Y	N
Disc Medic – Rivoli	Y	N
Medic – Toreador	Y	N
Persian Clover – Kyambro	Y	N
Subterranean Clover – Goulburn	Y	N
Subterranean Clover – Gosse	Y	N
Sweet Clover – Jota	Y	N
Subterranean Clover – Napier	Y	N
Persian Clover – Morbulk	Y	N
Subterranean Clover – Leura	Y	N
Subterranean Clover – Riverina	Y	N
Subterranean Clover – Coolamon	Y	N
Subterranean Clover – Izmir	Y	N
Biserrula – Mauro	Y	N
Yellow Serradella – Yelbini	Y	N
Lucerne – Super 7	Y	N
Lucerne – Aquarius	Y	N
Lucerne – Eureka	Y	N
Lucerne – Genesis	Y	N
Lucerne – Hallmark	Y	N
Lucerne – Jindera	Y	N
Lucerne – Sceptre	Y	N
Lucerne – Sequel HR	Y	N
Lucerne – Venus	Y	N
Phalaris – Atlas PG	Y	N
Phalaris – Australian II	Y	N
Phalaris – Holdfast	Y	N
Phalaris – Landmaster	Y	N
Wallaby Grass – Bunderra	Y	N
Wallaby Grass – Taranna	Y	N

New IP lodged or acquired in 2004/05	Registered in Australia	Registered overseas
<b>Patent</b>		
Paper products for colour printing	Y	N
Fibre coating composition	Y	N
Coating composition	Y	N
Semi-synthetic material	Y	N
A rotary cutting device having adjustable tension	N	Y
Sharpening Apparatus	N	Y
Shearing Platform	Y	N
Treatment of sheep to reduce flystrike	Y	N
A rotary cutting device	Y	Y
<b>Trademark</b>		
Parke Rota-Shear	Y	N
Wormboss	Y	N
Woolcheque	Y	N
<b>PBR</b>		
Subterraneum Clover – Mintaro	Y	N
Persian Clover – Lusa	Y	N
Sulla – Wilpena	Y	N
Sulla – Moonbi	Y	N
White Clover – Nusiral	Y	N
<b>Software</b>		
Sirodec Software	Y	N
Portfolio Management System	Y	N

## Appendix C – Publication list

Below is a table of publications produced or updated by or for AWI in 2004/2005. Most of these publications are available electronically on the AWI website at [www.wool.com.au/publications](http://www.wool.com.au/publications). Alternatively phone the AWI helpline tollfree on 1800 070 099 to obtain a copy.

Type	Title	Producer	Date
<b>Corporate and general</b>			
Magazine	Beyond the Bale	Australian Wool Innovation	Bi-monthly
Report	Strategic Plan 2004–2009	Australian Wool Innovation	July 2004
Report	Financial, Environmental and Social Evaluation of Ten Off-farm Research Projects	Apical International Pty Ltd	July 2004
Report	Limited Review of Ten On-farm Projects	Hassall & Associates Pty Ltd	July 2004
Agreement	Statutory Funding Agreement	Commonwealth of Australia and Australian Wool Innovation	August 2004
Report	Annual Report 2003/2004	Australian Wool Innovation	September 2004
Newsletter	Wool Matters	Australian Wool Innovation	September 2004
Notice	Notice of Annual General Meeting	Australian Wool Innovation	October 2004
Fact sheet	Wool Facts	Australian Wool Innovation	October 2004
Policy	Rules and Procedures governing the election of Directors	Australian Wool Innovation	March 2005
Policy	Code of Conduct – Directors and Officers	Australian Wool Innovation	March 2005
Policy	Charter of the Committees of the Board	Australian Wool Innovation	March 2005
Policy	Board Charter	Australian Wool Innovation	March 2005
Report	Strategic Plan 2004–2009 – 2005 update	Australian Wool Innovation	July 2005
Website	AWI website <a href="http://www.wool.com.au">www.wool.com.au</a>	Australian Wool Innovation	Relaunched in April 2005 and updated throughout year
Website	AWI in China website <a href="http://www.woolinnovation.com.cn">www.woolinnovation.com.cn</a>	Australian Wool Innovation	Updated throughout year
<b>Feed and nutrition</b>			
Brochure	Phosphorus for sheep and beef pastures – SA	Department of Primary Industries, Victoria	July 2004
Brochure	Products from NAPLIP	NAPLIP Steering Committee	July 2004
Report	Options to Reduce Feedstuff Supply Variability in Australia	Macarthur Agribusiness	July 2004
Fact sheet	TIMERITE®	Australian Wool Innovation	July 2004
Fact sheet	TIMERITE® Innovators	Australian Wool Innovation	July 2004
Fact sheet	TIMERITE® Information Package	Australian Wool Innovation	July 2004
Website	TIMERITE® website <a href="http://www.timerite.com.au">www.timerite.com.au</a>	Australian Wool Innovation	July 2004

Type	Title	Producer	Date
Fact sheet	Biological Control of Paterson's Curse – Crown Weevil	CSIRO	July 2004
Fact sheet	Biological Control of Paterson's Curse – Root Weevil	CSIRO	July 2004
Fact sheet	Biological Control of Paterson's Curse – Flea Beetle	CSIRO	July 2004
Fact sheet	Biological Control of Paterson's Curse – Pollen Beetle	CSIRO	July 2004
Fact sheet	MASTER Fact Sheet "Experimental Design"	NSW Department of Primary Industries	August 2004
Fact sheet	MASTER Fact Sheet "Soil Acidity and Lime"	NSW Department of Primary Industries	August 2004
Fact sheet	MASTER Fact Sheet "Pasture Responses to Lime "	NSW Department of Primary Industries	August 2004
Fact sheet	MASTER Fact Sheet "Animal Responses to Lime"	NSW Department of Primary Industries	August 2004
Fact sheet	MASTER Fact Sheet "Economic Analysis"	NSW Department of Primary Industries	August 2004
Pocket guide	Pasture legumes for Temperate Farming Systems – The Ute Guide	Primary Industries and Resources South Australia and NAPLIP Steering Committee	September 2004
Fact sheet	Revealing the secrets for profitable, productive native pastures in the Mid-North (South Australia)	Land, Water & Wool – Managing Native Vegetation and Biodiversity	September 2004
Fact sheet	The Sustainable Grazing on Saline Lands (SGSL) Producer Network in WA	Land, Water & Wool – Sustainable Grazing on Saline Lands	October 2004
Fact sheet	Lotus species for waterlogged and acid soils	Australian Wool Innovation	October 2004
Fact sheet	Phalaris – Expanding its adoption Insight	Australian Wool Innovation	October 2004
Fact sheet	Biological Control of Paterson's Curse and Thistles	Australian Wool Innovation	November 2004
Fact sheet	BESTWOOL 2010 Innovators	Australian Wool Innovation	November 2004
Fact sheet	GrassGro™	Australian Wool Innovation	November 2004
Brochure	Phosphorus for sheep and beef pastures – WA	Department of Primary Industries, Victoria	March 2005
Brochure	Phosphorus for sheep and beef pastures – Tas	Department of Primary Industries, Victoria	March 2005
Brochure	Insights – Case studies on how farmers are successfully managing saltland for profit and sustainability	Land, Water & Wool – Sustainable Grazing on Saline Lands	February 2005
Case study and fact sheet	A holistic solution for fine wool and healthy profits at 'Lana'; Tim & Karen Wright	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005

## Appendix C – Publication list (continued)

Type	Title	Producer	Date
Case study and fact sheet	Fine wool, healthy profits and healthy landscape the ideal equation; Rob & Annabel Dulhunty	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005
Case study and fact sheet	Triple bottom line focus for wool production at 'The Hill'; Jon & Vicki Taylor	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005
Brochure	Woolgrowers in the high rainfall and sheep-wheat zone protecting and improving bushland biodiversity on farm	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005
Brochure	Productive native pastures in the high and medium rainfall zones	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005
Fact sheet	Enhanced profitability, productivity and positive environmental outcomes for wool producers throughout Australia's pastoral zone	Land, Water & Wool – Managing Pastoral Country	April 2005
Fact sheet	Our reputation for quality wool in the Midlands of Tasmania rides on the sheep's back – and on the health of our native vegetation	Land, Water & Wool – Managing Native Vegetation and Biodiversity	April 2005
106 Fact sheet	Tasmanian Wool – Natural landscapes, natural fibres	Land, Water & Wool – Rivers	April 2005
Fact sheet	8x5 Wool Profit Program Innovators	Australian Wool Innovation	April 2005
Brochure	Land, Water & Wool Project Guide	Land, Water & Wool	April 2005
Website	<a href="http://www.landwaterwool.gov.au">www.landwaterwool.gov.au</a>	Land, Water & Wool	April 2005
Fact sheet	Grazing Native Pastures in Tasmania – Managing wallaby grass pastures	Land, Water & Wool – Managing Native Vegetation and Biodiversity	May 2005
Fact sheet	Grazing Native Pastures in Tasmania – Managing kangaroo grass pastures	Land, Water & Wool – Managing Native Vegetation and Biodiversity	May 2005
Fact sheet	Grazing Native Pastures in Tasmania – The forage characteristics and qualities of native grasses	Land, Water & Wool – Managing Native Vegetation and Biodiversity	May 2005
Fact sheet	Grazing Native Pastures in Tasmania – The best way to manage grassy weeds in native pastures	Land, Water & Wool – Managing Native Vegetation and Biodiversity	May 2005
Fact sheet	Managing grazing on Native Pastures in Tasmania	Land, Water & Wool – Managing Native Vegetation and Biodiversity	May 2005
<b>Health and welfare</b>			
Fact sheet	Alternative to Mulesing	Australian Wool Innovation	September 2004
Fact sheet	Feral Dog and Fox Control	Australian Wool Innovation	October 2004

Type	Title	Producer	Date
Fact sheet	Integrated Parasite Management	Australian Wool Innovation	October 2004
Fact sheet	Lice Detection Test	Australian Wool Innovation	October 2004
Fact sheet	Battling the blowfly – a plan for the future	Australian Wool Innovation	February 2005
Website and CD-ROM	WormBoss www.wormboss.com.au	Australian Wool Innovation and Sheep Industry CRC	March 2005

### Genetics and breeding

Fact sheet	Australian Sheep Genetics Database (now known as Sheep Genetics Australia)	Australian Wool Innovation	October 2004
Fact sheet	Genetics Strategy	Australian Wool Innovation	October 2004
Fact sheet	SARDI Selection Demonstration Flocks	Australian Wool Innovation	October 2004
Fact sheet	Sheep Genomics Program	Australian Wool Innovation	October 2004
Report	Genetic Alternatives to Mulesing and Tail Docking in Sheep	Dr Peter James, Animal Research Institute, Queensland Department of Primary Industries and Fisheries	November 2004
Report	Merino Superior Sires No 10	Australian Merino Sire Evaluation Association	January 2005
Report	Merino Selection Demonstration Flocks – Newsletter No 9	SARDI	April 2005

### Harvesting and fibre measurement

Fact sheet	AWI shearing strategy	Australian Wool Innovation	November 2004
Fact sheet	OFFM... On-Farm Fibre Measurement	Australian Wool Innovation	November 2004
Report	Skunkworks Mechanical Harvesting	PD Analytical Pty Ltd	May 2005
Report (Commercial in confidence)	BioClip Collaboration	Miracle Dog Pty Ltd	June 2005

### Textiles

Fact sheet	Merino knitwear push into US market	Australian Wool Innovation	November 2004
Fact sheet	Woolfleece™	Australian Wool Innovation	November 2004
Brochure	Doing Business with AWI – Textiles (English language version)	Australian Wool Innovation	April 2005
Brochure	Doing Business with AWI – Textiles (Chinese language version)	Australian Wool Innovation	April 2005
Website	wool on the web www.woolontheweb.com.au	Australian Wool Innovation	April 2005
Brochure	wool on the web	Australian Wool Innovation	April 2005

## Appendix C – Publication list (continued)

Type	Title	Producer	Date
<b>Trade development</b>			
Report	Evaluation of the Australia-United States Free Trade Agreement	Inquit Communications Pty Ltd	September 2004
Fact sheet	Trade Development	Australian Wool Innovation	November 2004
Report	China consumer market research project – Desk research report	Australian Wool Innovation and The Woolmark Company	December 2004
Report	Australia's recent and proposed Free Trade Agreements	The Woolmark Company	2005
Report	Russia's accession into the WTO and the impact on demand for Australian Wool	The Woolmark Company	2005
<b>Market intelligence</b>			
Report	Monthly Market Briefing	The Woolmark Company	Monthly
Report	A Global Strategic Market Analysis and Outlook for Australian Wool	The Woolmark Company	July 2004
Report	End of Season Review	The Woolmark Company	August 2004
Report	Wool Production Forecasting Committee Reports	Australian Wool Innovation	September 2004, December 2004, March 2005, June 2005
Report	Review and Outlook for Fine Wool 2004	The Woolmark Company	October 2004
Report	Sheep Flock Modelling Scoping Study	University of WA and Ecoservices Pty Ltd	December 2004
Report	Sheep's Back to Mill Statistics Yearbook 2003/04	Mac Stats and Analysis and Mark Gabrys	April 2005
Report	Wool Marketing and Risk Management Scoping Study	Risk Management Solutions Group	June 2005
Report	Review and Outlook for Mid-Micron Wool 2005	The Woolmark Company	June 2005
Fact sheet	Woolcheque	Australian Wool Innovation	June 2005
Website	Woolcheque <a href="http://www.woolcheque.com.au">www.woolcheque.com.au</a>	Australian Wool Innovation	June 2005

## subject index

Acid soils	8	Murata Vortex Spinning	16, 34
Animal rights extremists	5, 44, 45	National Annual Pasture Legume Improvement Program (NAPLIP)	8, 24, 49
Audit	53	New York office	1, 40
Auditors' independence declaration	60	Non current assets	73
Australian Merino Internet Portal	41	Non current liabilities	75
Bestprac	29	Notes to the Financial Statements	65-80
China Australian Wool Innovation Network (CAWIN)	17, 35, 49	On-Farm Fibre Measurement (OFFM)	6, 19, 27
CEO's report	6	Pesticide residues	26
China strategy	39	Project list	86-99
Collaboration	48	Publications	45, 104-108
Commitments for expenditure	78	R&D Corporations (RDCs)	48, 50
Corporate governance	51	Reconciliation of surplus from ordinary activities to net cash inflow from operating activities	80
Central Test Sire Evaluation (CTSE)	12	Remuneration of auditors	78
Chairman's report	4	Research, development and innovation expenditure	70
Company secretaries	3, 56	Revenue	69
Corporate Affairs	1, 7, 20, 43-46, 48	SARDI Selection Demonstration Flock (SDF)	13, 25, 27
Current assets	72	Scholarships	15, 30
Current liabilities	75	Scouring	16, 35
Designers	16, 36	Segment information	69
Directors' declaration	81	Sheep Genetics Australia (SGA)	6, 12, 13, 26, 30, 49
Directors	2, 51, 56-59, 79	Shanghai office	1, 39
Dark and Medullated Fibre (DMF)	6, 18, 41	Shearing	6, 13, 25, 27, 28, 41, 49
Economic dependency	80	Soil biology	8
Education and Adoption	14	Staff	1, 7, 52-54
Employee benefits	79	Statement of Cash Flows	64
Events occurring after reporting date	80	Statement of Financial Performance	62
Falkiner Memorial Field Station	9, 24, 25	Statement of Financial Position	63
Fancy yarns	35	Statutory Funding Agreement	52, 59
FeralMone	6, 11, 25, 26	Summary of significant accounting policies	66
Financial instruments	77	Surplus from ordinary activities	69
Financial Report	61-83	Textile product development themes	32, 33
Financial Statements	55-83	Textile Technology	1, 6, 15, 31-36, 48
Forums	44, 46	The Australian Wool Fashion Awards (TAWFA)	36
Free Trade Agreements: China/Australia	19, 41	The Sheep's Back	6, 14, 25, 30
Fundamental Wool Science	17-18, 34, 36, 49	TIMERITE	8, 24, 45
Genomics	12, 26, 49	Total Easy Case (TEC)	15, 16, 32, 33
Global Innovators Wool Pipeline Tour	35	Total equity	76
Grain & Graze	8, 10, 48	Trade Development	1, 6, 18, 37-42, 48
Helpline	44, 45	TRANSseasonal fabrics	33
Independent audit report	82-83	Web communications	21, 45
Integrated Parasite Management	11, 25	Wool on the Web	6, 45
Intellectual property	49, 100-103	Wool Production	1, 6, 8, 23-30, 48
Land, Water & Wool	6, 9, 10, 24, 27, 49	Wool4Wealth	6, 14, 25, 30
Leading Sheep	6, 14, 25, 30	Woolcheque	18, 41, 45
Lice	6, 11, 26	Woolfleece	35
Lifetime Wool	6, 8, 28	WormBoss	6, 11, 25, 49
Merino Super Soft knitwear and fabrics	16, 32, 33		
Mission	1		
Mulesing	6, 11, 25, 30, 49		



**Australian Wool Innovation Limited**

ABN 12 095 165 558

**Registered office:**

Level 5  
16-20 Barrack St  
Sydney NSW 2000

**Postal address:**

GPO Box 4177  
Sydney NSW 2001

Tel +61 2 9299 5155  
Fax +61 2 9299 9880

**Website [www.wool.com.au](http://www.wool.com.au)**

Email [info@woolinnovation.com.au](mailto:info@woolinnovation.com.au)  
Helpline 1800 070 099  
(free call within Australia)

ISBN 192 090 8811

**Share registry:**

ASX Perpetual Registrars  
1800 113 373  
(free call within Australia)

**Auditor:**

PricewaterhouseCoopers  
201 Sussex Street  
GPO Box 2650  
Sydney NSW 1171

• **australian wool**  
**innovation**  
• **limited**