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PROFIT FROM WOOL INNOVATION

ISSUE 52 SEPTEMBER 2012

MARKETING AUSTRALIAN WOOL VALUE OF WOOL ATTRIBUTES PRODUCTIVE OLDER EWES

YOUNG WOOL ADVOCATES

ID BRIAR





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Secure our industry's future: Vote in WoolPoll 2012

Every three years Australian woolgrowers make an important decision in the direction of AWI's research, development and marketing (RD&M) activities by voting in WoolPoll.

WoolPoll gives woolgrowers the opportunity to decide the levy rate AWI invests in RD&M, secure the profitability and sustainability of the industry and set AWI's direction over the coming three years.

WoolPoll is a critical vote for Australian woolgrowers, and every shareholder and eligible levy payer is entitled to have their say by choosing one of five alternative levy options.

This WoolPoll, AWI's Board has recommended Australian woolgrowers vote to continue the two per cent levy to insulate its RD&M activities against the cyclical nature of the industry and ensure ongoing stability in investments.

AWI CEO Stuart McCullough says the two per cent levy will help protect industry and ensure continued growth in demand for Australian wool.

"A two per cent levy is essential to protect our industry in times of uncertainty. It enables us to continue to deliver value for investment and support woolgrowers with outcomes that drive demand for Australian wool," he said.

"It will also allow us to eliminate the peaks and troughs of funding, assuring AWI's ability to forward plan and create stability for the business." The AWI Board has also announced a modified investment split between R&D and marketing, with 60 per cent of levy funds now to be invested in marketing and 40 per cent in R&D. Whilst this is a change from the current 50:50 split, the Board's intention to draw down on AWI's reserves means the investment in R&D in dollar terms will increase from the current level.

"The next three years offer many opportunities and challenges for the industry. Your vote in support of AWI's recommendation will ensure we can continue to build the momentum of investment that positions our product as the world's best premium, natural, renewable fibre," Mr McCullough said.

To see what AWI has delivered for Australian woolgrowers, check out the *AWI: Delivering results for growers* publication inserted with this issue of *Beyond the Bale*.

During September and October, AWI will be 'on the road', hosting seminars in 16 key woolgrowing areas across the country (see page 4), to explain its recommendation and give growers the opportunity to ask questions of Mr McCullough and senior managers.

More information can be found at www.woolpoll.com.au

WoolPoll 2012 opens on 21 September and closes at 5pm on Friday 2 November.

WoolPoll **⊡2012**

Australian Wool Innovation Limited



Find Woolmark on Facebook at www.facebook.com/woolmark

Beyond the Bale is published by **Australian Wool Innovation Limited** (AWI), a company funded by Australian woolgrowers and the Australian Government. AWI's goal is to help increase the demand for wool by actively selling Merino wool and its attributes through investments in marketing, innovation and R&D – from farm to fashion.

AWI INVESTMENT STRATEGIES

- 1. WOOL INDUSTRY R&D ON-FARM
- 2. WOOL INDUSTRY R&D OFF-FARM
- 3. MARKETING AUSTRALIAN WOOL
- 4. INTERNATIONAL SALES NETWORK/WOOLMARK
- 5. INTERNATIONAL TRADE AND MARKET ACCESS

Executive Editor: Richard Smith, richard.smith@wool.com AWI Marketing and Communications. AWI, Level 30, 580 George St, Sydney NSW 2000 AWI, GPO Box 4177, Sydney NSW 2001 P 02 8295 3100 F 02 8295 4100 E info@wool.com W www.wool.com AWI Helpline, 1800 070 099 Subscription: Beyond the Bale is available free. To subscribe contact AWI P 02 8295 3100 E info@wool.com Copyright: Material in Beyond the Bale is copyright. Reproduction of the material is encouraged. However prior permission must be obtained from the Executive Editor. Disclaimer: Whilst Australian Wool

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Front cover: Young Farming Champion Lauren Crothers who is educating other young Australians about the wool industry's importance – see pages 22-23. Lauren is pictured at the historic Jondaryan Woolshed near Toowoomba, Queensland.

Beyond the Bale is online at http://digital.wool.com.au

Getting on with business

We are continuing with initiatives to help increase the demand for wool through investments in marketing and R&D – from farm to fashion. I would like to inform you of some recent activities in which the organisation has been involved.

Wild dogs: To help woolgrower groups protect their sheep from wild dogs, and rebuild their flocks, AWI has invested over \$1.5 million over the past 12 months, leveraged with funding from local governments and natural resource managers. Funding goes towards practical initiatives such as aerial baiting and establishing new producer groups. Key to helping woolgrowers is the funding of wild dog coordinators, who are working with landholders to raise awareness and ensure wild dog control activities are coordinated across regions and are effective.

Shearer and woolhandler training: Adequate numbers of highly skilled professional shearers and wool handlers are key to the profitability of the Australian wool industry. In the past 12 months, 1304 shearers and 886 wool handlers were trained directly through AWI-funded programs across Australia, with an additional 372 participants who attended crutching and other introductory shearing and woolhandling workshops. If we want to retain these new professionals in the industry, and attract others, we need to ensure that they have professional shed conditions in which to work.

Value of wool attributes report: A recent AWI review of AWEX data for all fleece wool auctioned between 2004 and 2011 could help woolgrowers avoid discounts and attract increased premiums by producing wool with the characteristics that are valuable to buyers, processors and consumers. The review analysed the relationship between clean prices for over 1.7 million lots of fleece wool and a range of characteristics of the raw wool sold. A summary of the AWI review is available on pages 34-35 of this edition of *Beyond the Bale*.

AWI state networks: AWI continues to invest and grow its state based extension networks which have increased their membership base by nearly 50 per cent over the past 12 months to 7520. Strong partnerships with state departments, private providers and woolgrowers have secured ongoing funds for Leading Sheep (Qld), Sheep Connect NSW, Bestwool/Bestlamb (Vic), SheepConnect Tas, Sheep Connect SA, The Sheep's Back (WA) and Bestprac (pastoral) networks. Call the AWI Helpline on 1800 070 099 if you want to get involved with a group in your area.

Ermenegildo Zegna Wool Trophies: In 2013 the industry will be celebrating the 50th anniversary of the Ermenegildo Zegna Wool Trophies. These two competitions are open to all Australian and New Zealand woolgrowers. All entrants must be Superfine Merino ewe or wether skirted fleeces. The Vellus Aureum is open to fleeces with a minimum weight of 750 grs and tested as 13.9 micron or finer. The Wool Trophy is open to fleeces of 18.5 micron or finer. Full entry details are available from the competitions' coordinating companies the Australian Superfine Wool Growers' Association and G. Schneider Australia Pty Ltd, or from the AWI Helpline on 1800 070 099.

International Woolmark Prize: The regional finalists of the International Woolmark Prize, presented in partnership with Vogue, have recently been announced, and the interest in this award from the fashion communities and media globally has been phenomenal. It is helping put wool back on the agendas of fashion designers across the world, and consequently into retail stores for consumers to purchase. An important element of this prize is the commercialisation of Australian Merino wool products in the key regions of Europe, Australia, China and the USA.

Merino next to skin R&D: The results of an AWI-funded study undertaken by the Queensland Institute of Dermatology with patients suffering from chronic skin conditions show that wearing suitably specified fine Merino products will not irritate the skin's surface but in fact benefit those suffering from the skin conditions. The study also challenges persistent public perception that wool is "prickly and itchy", and might open the doors to new high value product markets. **Review of Performance:** The 2012 independent Review of Performance (ROP) was recently completed and it found that AWI's performance has greatly improved over the past three years, accurately reflecting our collective commitment to the industry and to demonstrating a return on investment for Australian woolgrowers. The ROP is undertaken every three years prior to WoolPoll. We still have some work to do, and we will be addressing those areas that need further improvement. Further information is available on the AWI website at www.wool.com/rop

Government rural R&D policy

announcement: The Government recently outlined its future rural R&D policy and announced its position on the Productivity Commission's report on rural Research & Development Corporations (RDCs). The Government's announcements focus on improving the efficiency and effectiveness of the rural RDCs, and confirmed that it does not accept the Productivity Commission's recommendation to reduce rural R&D funding. Given the many improvements AWI has already made as a result of the 2009 Review of Performance, the Government's announcement will have little impact on AWI.

Stuart McCullough Chief Executive Officer, Australian Wool Innovation



AWI roadshow

During September and October, AWI will be on the road hosting seminars in key woolgrowing regions across Australia.

AWI CEO Stuart McCullough invites you to join him to discuss how AWI has performed over the past three years and the plans into the future.

Topics will include:

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- Global market outlook the opportunities and threats for Australian wool
- On-farm RD&E priorities including flies, worms, wild dogs and lice
- Bottom-line results of marketing and promotional activities across our key markets
- Partnerships with the global supply chain that create market opportunities for new products.

Thursday 20 September Merredin, WA (afternoon)

Friday 21 September Jerramungup, WA (morning) Darkan, WA (evening)

Monday 24 September Yass, NSW (morning) Cooma, NSW (evening)

Tuesday 25 September Bairnsdale, Vic (afternoon)

Wednesday 26 September Geelong, Vic (morning) Campbell Town, Tas (evening)

Tuesday 2 October Inverell, NSW (afternoon) Armidale, NSW (evening)

Wednesday 10 October Minnipa, SA (afternoon)

Thursday 11 October Orroroo, SA (morning)

Monday 15 October

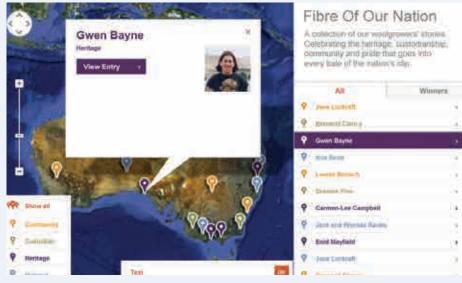
Mildura, Vic (morning) Narrandera, NSW (evening)

Thursday 18 October

Nyngan, NSW (morning) Louth, NSW (evening)

More information: For more information about venues and times, and to register, call the AWI Helpline on 1800 070 099.

Fibre of our Nation:



Wool stories from across Australia collected as part of the Fibre of our Nation project can be viewed at www.wool.com/FibreOfOurNation

FAST FACTS

• The winning woolgrowers in the Fibre of our Nation project are announced.

- The project taps into the endless stories of heritage, custodianship, community and humour out there amongst people involved with the wool industry.
- Many of the entries are available to be viewed on the AWI website at www.wool.com/FibreOfOurNation

With close to 150 submissions entered in the Fibre of our Nation project, woolgrowers certainly got behind the opportunity to share their wool story.

It's the first time such an initiative has been undertaken and taps into the amazing real life stories of heritage, custodianship, community and humour we all know are out there amongst people involved with the wool industry.

Woolgrowers, woolclassers, shearers, knitters and retailers sent photographs, wrote stories, poems, videos and even songs as part of the project. With digital technology and social media, creating a video that can be seen my millions of people can be as simple as having some fun on an iPhone.

In return for their efforts, entrants all received a signed copy of "Woolsheds" by renowned photographer Andrew Chapman.

The best 100 entries have now been placed within an online map of Australia for everyone to watch and read. It has provided AWI with a wonderful resource to tap into and various entries have already sparked ideas to help sell wool around the world.

Initiator of the Fibre of our Nation project, AWI Media Manager Marius Cuming thanked everyone who took the time to create an entry.

"People have put a lot of time into their entries and it's great to be able to show the world the amazing people, places and animals behind this natural fibre. It was quite a task to judge so thank you to the judging panel of experts: AWI Head of Marketing Rob Langtry, Matt Jensen from retailer M.J. Bale, David Hutton from SoDUS creative agency and Alana Stocks from Circul8 social media agency."

Judges strictly stuck to the criteria: to find stories and images that best highlight the attributes of Australian wool within each category.

"With so many wonderful photographs sent in, it only seems natural to create a calendar for 2013," Mr Cuming added.

Category winners and highly commended entries all receive an EMU Australia gift pack and the overall winner has won a business class trip for two to any major AWI office in the world: New York, London, Shanghai, Beijing, Hong Kong, New Delhi, Milan, Tokyo or Seoul.

More information: Wool stories from across Australia collected as part of the Fibre of our Nation project can be viewed at: www.wool.com/FibreOfOurNation

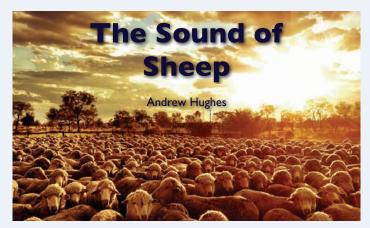
celebrating your stories



A clip from the overall winning entry from Chad and Louise Taylor of Wellington, NSW.



Marilyn Richardson, from Kiama NSW, sent in this photo of her from a few decades ago as a young girl.



The title page from the Photo/text winning entry in the Custodian category by Andrew Hughes, Thargomindah, Queensland.



84 year old Hamilton shearer Laurie Herrmann blade shearing at the Tuppal Station shearing re-enactment in 2010.

Fibre of Our Nation winners

OVERALL WINNER:

Chad and Louise Taylor, Wellington, NSW

Community category

Photo/text winner: Sharon Merrett, Kaniva, Vic Highly commended: Don Mudford, Dubbo, NSW Video: Highly commended: Smith family, Wellington, NSW

Custodian category

Photo/text winner: Andrew Hughes, Thargomindah, Qld Highly commended: Laura Heymink, Cheepie, Qld Video: Chad and Louise Taylor, Wellington, NSW Highly commended: Hugh Beveridge, Gilgandra, NSW. Cassandra Ledger, Yass, NSW

Heritage category

Photo/text: Laurie Herrmann, Hamilton, Vic Highly commended: Gill Frawley, Branxholme, Vic Video: Joint winners: Matt and Toni Ashby, Gulnare, SA; Max Kerr, Wallinduc, Vic

Humour category

Photo/text winner: Caroline Telfer, Darkan, WA Highly commended: Lynley Anderson, Kojonup, WA Video: None



South Australian Corriedale breeder Brenton Lush sent this shot of his son and felt balls.



The Governor-General (centre) with the 2012 Women of Wool: (left to right) Pip Merriman, Jackie O'Brien, Katrina Wheaton-Penniall, Emma Gerring, Catriona Rowntree, Charlotte Smith, and MC for the Women of Wool event Deborah Hutton. Lisa Gorman not pictured.

The Women of Wool Luncheon at the annual Australian Sheep and Wool Show in Bendigo, Victoria is always a must attend event, and this year the event, supported by AWI, was made extra special with the attendance of some incredible Australian women.

Hosted by media personality Deborah Hutton and attended by the Governor-General Ms Quentin Bryce AC CVO, the lunch celebrated the work of seven women who have shown extraordinary passion for wool: TV presenter and woollen babywear designer Catriona Rowntree, fashion designer Lisa Gorman, curator and author Charlotte Smith, woolcraft expert Emma Gerring, textile educator Katrina Wheaton-Penniall, woolgrower Pip Merriman, and creator of knit and design studio 'Hazel Green' Jackie O'Brien.

Comedian Rachel Berger delighted the packed house of 270 guests with her witty sense of humour, while the Governor-General brought purpose to the event with the heart-warming story of her childhood and father's career in the Queensland wool industry, which provided her with a lifelong love for wool and wool apparel.

After the lunch, Ms Bryce presented Show awards for the Champion Australian Fleece, the Champion Merino Pair, and gave ribbons to School Junior Sheep Breeder winners.



The Governor-General congratulates participants in the Merino pair competition at the Australian Sheep and Wool Show in Bendigo, Victoria.

There was a record attendance at this year's Australian Sheep and Wool Show, which was accompanied by impressive sales figures for site holders, 2500 sheep entries, and 250 sheep dog trial entries.

More information: www.womenofwool.com.au www.sheepshow.com, www.gg.gov.au



The Governor-General with School Junior Sheep Breeder winners.

OFF-FARM

Lana bella! Beautiful wool!

FAST FACTS

- A high-profile knitwear exhibition held in the fashion hotspot of Milan highlighted the importance and quality of Australian Merino wool.
- AWI had a special Woolmarkbranded installation within the exhibition that demonstrated wool is the ideal natural choice for knitwear.
- Well-known brands such as Chanel, Yves Saint Laurent and Giorgio Armani made their presence felt within the exhibition.

A knitwear exhibition in the heart of one of the world's leading fashion centres, Milan, has showcased the quality of Merino wool and the Australian wool industry to audiences of influential fashionistas and fashion loving consumers.

The "Maglifico! Sublime Italian Knitscape" exhibition, of which AWI was presenting partner, was launched during Milan's Men's Fashion Week and illustrated the long love affair between fashion and Merino wool. Showing from June until the start of September, the exhibition featured the work of Italian designers who have crafted the versatile wool fibre into both commercially viable products and one-off masterpieces.

The exhibition paid homage to Italian manufacturers of knitwear – highly sort

after by the world's most influential brands – and the manufacturers' long history and experience passed on from one generation to another. The common theme connecting all the exhibited pieces was the close relationship between this Italian manufacturing industry

and Australian producers of Merino wool.

AWI country manager for Italy, Lisa Lisanti, said the exhibition's opening in June was a huge success.

"More than 500 people attended the opening including top designers such as Missoni, Rivetti, Marras, Bikkemberg and top names of the national and international fashion system," Ms Lisanti said.

"Zegna Baruffa also provided some wonderful knitted blankets and precious Merino wool in raw form, allowing visitors to discover the beauty of the natural fibre.

"In addition there were more than 100 fashion editors, bloggers and TV crews in attendance. The exhibition has received exceptional reviews across a host of printed and online publications as well as TV. The media value of the coverage achieved is currently more than four times the budget allocated for the event."

Within "Maglifico!", a special area was dedicated to yarns and in particular



Crowds at the "Maglifico!" knitwear exhibition in Milan.

Merino wool yarns. AWI was present inside the exhibition with a special installation, created by design visionary Angelo Figus, to celebrate wool and create a sensorial and educational experience of Merino wool.

The different areas inside the exhibition revealed wool's versatility, inspiration to well-known names in fashion, including Chanel, Yves Saint Laurent, Giorgio Armani, Prada, Missoni, Vivienne Westwood, and other new innovative designers including Paolo Errico, Boboutic, Henrik Vibskov and Aimo Richly.

This exhibition follows on from last year's successful "Unravel: Knitwear in Fashion" exhibition, of which AWI was also presenting partner, held at the prestigious MoMu fashion museum in Antwerp, Belgium.

More information: www.woolmark.com/feature-maglifico



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OFF-FARM

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September 2012 **BEYOND THE BALE**

INTERNATIONAL WOOLMARK PRIZE



Fashion designer Dion Lee won the Australia regional final of the International Woolmark Prize and will compete in the grand final of the coveted award at London Fashion Week in February 2013.

FAST FACTS

- The regional finalists have been announced for the relaunched International Woolmark Prize. presented in partnership with Vogue.
- An important element of this prize is the commercialisation of Australian Merino wool products in key retail outlets in Italy, UK, US, China, Australia and Germany.
- The final winner will be announced at London Fashion Week in February 2013 and will have their collection stocked in some of the world's leading retailers.

ive emerging fashion designers have been propelled onto the international fashion scene after winning their regional finals for the relaunched International Woolmark Prize (IWP).

Dion Lee from Australia, Ban Xiao Xue from China, Christian Winjants from Europe, Pankaj and Nidhi from India and the USA's Sophie Theallet will now sit alongside Japanese nominated designers DRESSES UNDRESSED to compete in the grand final of the coveted award at

London Fashion Week in February 2013.

A successor of the International Wool Secretariat Prize, it has previously uncovered the legendary talents of Yves Saint Laurent and Karl Lagerfeld and today is proudly presented by AWI and The Woolmark Company in partnership with Voque

From now until February next year each

of the five regional winners will be busy creating a capsule collection as part of the final round of judging, with the eventual winner having his/her collection stocked by leading global retailers including David Jones in Australia, Harvey Nichols in the UK, Bergdorf Goodman in the USA, 10 Corso Como in Italy, Joyce in China and Eickoff in Germany.

Ban Xiao Xue who won the China regional final.

China judging panel



НĒ

In the Australia region final, Dion Lee was up against Carl Kapp, Christopher Esber, Kym Ellery, Magdalena Velevska and Song for the Mute, but according to the judges Dion Lee was the clear winner.

At Sydney's Museum of Contemporary Art, against the backdrop of stunning harbour views, the 26-year-old Sydneysider edged out the five other Australian designers with his cortex coat dress.

Dion Lee was honoured to be presented the award by Vogue Australia's Editor-in-Chief Edwina McCann and said he felt a great sense of pride.

"I am extremely excited to be the Australian winner of the International Woolmark Prize, especially being that Woolmark is an Australian brand with significant heritage within the industry and the origins of the world's finest wool," he said

"I am really looking forward to working further with Woolmark and presenting a new collection at London Fashion Week February 2013 and showing alongside some of the most important designers in the world."

Judge and internationally renowned fashion designer Richard Nicoll praised the winner's work and believes he has what it takes to win the final prize.

"Dion is the ideal designer ambassador for Australia," Mr Nicoll said.

"I think he has a good chance of winning the overall international competition which would be a fantastic result for the perception of Australian fashion as a whole and inspiring for future generations of winners."

AWI CEO Stuart McCullough said the reinvention of the IWP for a new generation was also in line with the expectations of the modern day consumer and would give one lucky designer a head start in satisfying these needs.

"One future star will receive the ultimate prize," Mr McCullough said, "That of being stocked in the world's premiere boutiques and retailers combined with a global media and marketing campaign supported by The Woolmark Company and Vogue.

"The interest in this award from the fashion communities and media globally has been phenomenal. It is helping put wool back on the agendas of fashion designers across the world, and consequently into retail stores for consumers to purchase."

Europe judging panel

Christian Winjants who won the Europe regional final.

India judging panel



Sophie Theallet who won the USA regional final.

USA judging panel

www.woolmarkprize.com www.woolmark.com/woolmark-prize

More information:

SEPDA.



France: Wool in Vogue



Pages from the 'La laine à l'honneur par dix designers' ('Wool in the spotlight by ten designers') 16-page wool designer feature in Vogue Paris. This spread features a wool design by Jean Paul Gaultier.

FAST FACTS

- AWI is re-engaging with the French womenswear apparel market thanks to a collaboration with Vogue Paris and French fashion industry body 'Chambre Syndicale de la Haute Couture'.
- A special 16-page feature appears in the September edition of Vogue Paris, highlighting the use of Merino by ten of France's most prominent designers, including Jean Paul Gaultier and Maison Martin Margiela.
- The calibre of designers supporting the Vogue feature supports the intrinsic connection between Merino wool and the global fashion industry.

2012 has seen AWI re-establish its presence in France - the birthplace of fashion, of haute couture and home of some of the world's top designers – and encourage the blossoming passion for Merino wool by the country's fashion industry.

The French edition of Vogue, Vogue Paris in collaboration with AWI and French fashion industry body 'Chambre Syndicale de la Haute Couture' has released a special 16-page feature in the September issue of the coveted fashion publication.

The feature highlights unique and

inspiring interpretations of Merino wool by ten of France's most prominent Haute Couture designers. Under the banner of AWI's global marketing campaign 'Merino. No Finer Feeling[™]', the initiative is helping AWI re-engage with the country so influential in the fashion industry.

The featured designers are Jean Paul Gaultier, Maison Martin Margiela, Atelier Gustavo Lins, Christophe Josse, Anne Valérie Hash, Alexandre Vauthier, Alexis Mabille, Bouchra Jarrar, Maison Rabih Kayrouz and Maxime Simoens.

The promotion has been designed for cross-media distribution, having been launched online by Vogue in a microsite at www.vogue.fr on the same day the September issue hit the newsstands (23 August) and will continue until 23 October. The microsite features a video from the shoot, and imagery of the Vogue photo shoot, as well as exclusive interviews with each of the ten designers, and a presentation of the International Woolmark Prize's finalists and their designs. All content crosses over to AWI's online marketing channels.

Special edition reprints of the 16-page feature are being distributed by AWI and Chambre Syndicale to their associates.

AWI's Chief Strategy and Marketing Officer Rob Langtry said, "The calibre of designers supporting the Vogue special feature and endorsing the 'Merino. No



Finer Feeling[™] campaign highlights the intrinsic connection between the global fashion industry at the highest level and the Woolmark brand.

"The partnership with Vogue Paris and Chambre Syndicale represents the return of AWI and Woolmark in what is the most important and influential womenswear market globally."

AWI was also an official partner to the Chambre Syndicale's International Festival of Fashion and Photography at Hyères in the South of France earlier this year. The event, attended by more than 1000 influential designers and artists, comprised fashion shows from ten of the brightest rising fashion stars with awards presented by L'Oréal, Première Vision and Chloé to the most outstanding designers.

To accompany the Hyères festival, an event was held in Paris at the elegant Palais de Tokyo. AWI was the principal partner for the event which attracted more than 450 guests from France's fashion and art industries who were treated to a live broadcast of the fashion shows from Hyères.

International Wool Textile Organisation (IWTO) chair, Peter Ackroyd, said AWI's presence in France is one which should be applauded.

"There is considerable excitement in France about Woolmark's return after an absence of several years," Mr Ackroyd said. "The relationship between France and AWI has been revived and 2012 has proved to be extremely prosperous. Merino wool continues to be held in such high regard within the fashion industry and where better to promote it than in the birthplace of fashion – in France."

More information: www.vogue.fr/woolmark www.merino.com

Italy: Wool in Vogue

FAST FACTS

- Condé Nast in Italy, in collaboration with AWI, is featuring images of the latest Merino wool rich garments from ten internationally renowned brands in the September editions of L'Uomo Vogue and Vogue Italia.
- The images, along with quotes from the brands endorsing wool, are being included in a book produced by Vogue that promotes Merino wool.
- Vogue is also arranging a photographic exhibition about wool to be exhibited during Milan Fashion Week later this month.

WI has been working with the Italian Men's version of Vogue, L'Uomo Vogue, on a fashion photo shoot of Merino wool rich pieces from the autumn/winter 2012/13 collections of 10 well known international menswear and womenswear fashion brands.

The brands are Thom Browne, Dolce & Gabbana, Salvatore Ferragamo, Givenchy, Marc Jacobs, Donna Karan, Lanvin, Missoni, Diane von Furstenberg and Alexander Wang. Each of the brands has provided quotes, endorsing wool, that accompany the photos.

Images from the photoshoot are being featured in a new 102 page book titled "An Extraordinary Matter, the Art of Merino" which is being inserted as a supplement into the September edition of L'Uomo Vogue. An abstract of the book featuring some of the fashion brand images is being inserted into the September edition of L'Uomo Vogue and Vogue Italy. The book will be also distributed by AWI at the fashion and textile trade shows the company attends during September and October.

The book is split into two parts. The first section explains the origin and attributes of Merino wool and Merino fabrics, plus the Woolmark brand, through a visually and emotionally stunning combination of images. The second section presents the interpretation of wool by the 10 top international designers told through the powerful language of fashion photography and personal quotes from each of the designers, in the best tradition of the "Vogue system".

This initiative is branded under the banner of AWI's global marketing campaign 'Merino. No Finer Feeling™.

Vogue has also arranged a photographic exhibition about wool to be exhibited during Milan Fashion Week later this month.

The Marketing Director of L'Uomo Vogue Stefania Vismara said, "Our purpose was to create a true "art book", something unprecedented, to collect, show, draw inspiration from and above all to propel the designers towards an even greater use of this material, as told in a "language" - that of image - they truly understand.

"I would like to stress how happy we are with the result, which exceeded our expectations. In light of this, we would like to first and foremost thank AWI for its most precious collaboration."

More information: www.vogue.it www.merino.com





One of pages featuring wool in the September edition of Vogue Italy. This page features a wool design and endorsement by Dolce & Gabbana.

Seasonal trend guide for wool

FAST FACTS

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- The latest Wool Lab guide to the best wool fabrics and yarns in the world has been launched by AWI for the Autumn/Winter 2013/14 season.
- This edition further cements some of the macro trends introduced in previous editions of The Wool Lab.
- The edition also sees the introduction of an Urban theme, mixing street style with cosmopolitan flair.

The Wool Lab – AWI's seasonal guide to the best wool fabrics and yarns in the world – has quickly become a wellrespected and widely recognised tool for companies in the fashion industry, inspiring them to use wool in their apparel collections.

The latest edition of The Wool Lab – for the Autumn/Winter 2013/14 season – was launched at June's Pitto Uomo trade show in Florence, and has since been shown at other trade events across the world.

This latest edition unveiled nine inspiring themes. Out of these nine trends, some are macro-trends, or long waves, moving through fashion and lifestyle with endurable influence. Others are emerging new trends, reflecting what is in vogue right now and the upcoming needs of the future market.

In line with the past two editions, Autumn/Winter 2013/14 also presents a Pure theme, highlighting the green soul of Merino wool and offering new inspirations to the eco-friendliness of the fibre.

Perhaps the most interesting theme to make its debut in the latest offering is Urban.

Divided into three moods, Urban presents street-style mixed with a blend of metropolitan character and cosmopolitan flair. (1) *Asphalt's* street-style interpretation evokes features from everyday life; (2) *Detroit* has been inspired by the work trend of 1950s America; and (3) *Berlin* is a utility trend inspired by the sub-urban look in the north of Europe. Targeting consumers aged between 25 and 35, the Urban category is a strategic move for AWI as there is a huge potential for growth in this area.

AWI country manager for Italy, Lisa

Lisanti, said the launch of The Wool Lab Autumn/Winter 2013/14 had been extremely well received, building upon the success of the past editions.

"At Pitti Uomo alone we made more than 300 new connections, with visitors eager to interact with AWI

staff as well as have exclusive contact with the fabrics and swatches presented in each book," Ms Lisanti said.

The Wool Lab has found success since its inaugural launch in 2011. One-on-one meetings have taken place across the

industry stakeholders. "The Spring/Summer 2013 edition has proven to be popular across the world, with AWI showing the collection to some of the world's most prestigious brands, including Armani, Benetton, Diesel, Loro Piana, Missoni and Ermenegildo Zegna," Ms 25 Lisanti said.

> "Each edition further illustrates the infinite potential of Merino wool, mixing inspiration with business orientation and increasing the demand for the fibre. It not

world, as have a multitude of workshops and seminars as well as retail and

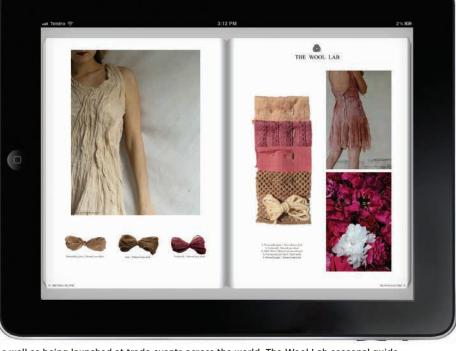
manufacturer training sessions, all of which have proved to be extremely valuable for

> only provides a sourcing tool to discover new suppliers but inspires the industry and media to drive Merino wool's message to consumers."

The Wool Lab is also available free of charge as an iPad app from Apple iTunes. Viewers are able to discover the new seasonal trends, be inspired by the mood

boards, and zoom in on images of fabric and yarn swatches.

More information: www.woolmark.com/trends http://bit.ly/WoolLabiTunes



As well as being launched at trade events across the world, The Wool Lab seasonal guide is also available as an iPad app.

"EACH EDITION FURTHER ILLUSTRATES THE INFINITE POTENTIAL OF MERINO WOOL, MIXING INSPIRATION WITH BUSINESS ORIENTATION AND INCREASING THE DEMAND FOR THE FIBRE."

LISA LISANTI, AWI



cool wool campaign heats up

show that Merino apparel is a must-have for one's spring/summer wardrobe."

By the end of the year the Cool Wool consumer campaign will travel to the Gulf and then to markets further afield. The campaign mixes imagery with film - sometimes served up with ice cream... during the London events, vintage ice cream tricycles were whizzing across the city, handing out Cool Wool information and frozen ice cream treats.

"We are currently formulating plans to take this campaign to other markets, such as Korea, Japan and Iberia," Mr Langtry said. "Powerful imagery and two evocative films form the backbone of this consumer campaign, communicating the message 'Cool Wool - When it's hot, it's not'."

The films and images transport the viewer to the sweltering heat of Marrakech medinas, to the parapets of Casablanca under the merciless glare of the African sun, and finally to the treeless sands of a remote Moroccan beach – where the subjects dressed in Merino wool maintain their cool and show that comfort can in fact meet style.

"Our consumer campaign is all about brand visibility and raising the awareness of Australian Merino wool. We have worked with UK magazine Rollercoaster to run a feature on Cool Wool in a special Olympic edition of the magazine, which was distributed at key locations in London throughout July.

"We are also excited that key designers including knitwear designer Mark Fast, internationally renowned designer and International Woolmark Prize judge Richard Nicoll, along with JW Anderson – just to name a few – are set to showcase lightweight Merino wool in their spring/ summer collections at London Fashion Week in September."

FAST FACTS

- Already launched to a trade audience, AWI's Cool Wool campaign will soon be launched to consumer markets in the Gulf and then expanded to other regional markets.
- The campaign spreads the message that Merino wool is great for warm climates and environments.
- The campaign was showcased in June at the inaugural *London Collections: Men* event where the finest in Merino wool was showcased from catwalk to in-store events.

AWI's recently revived Cool Wool campaign has been heating up in recent months, conveying the message that Merino wool is great for warm climates and environments.

The campaign aims to transcend seasonal divides and extend the wool selling season from the cooler autumn months into the warmer spring and summer seasons. Merino wool. With the trade launch at February's Première Vision trade show in Paris reaping success, the best of Cool Wool was showcased in June at the inaugural *London Collections: Men* event where the finest in Merino wool was showcased from catwalk to in-store events involving Savile Row tailors.

Image from the Cool Wool

consumer

campaign.

shot in the heat of

Morocco.

showing how

to maintain

by wearing

vour cool

The tailors of Savile Row have longsupported the use of lighter-weight Merino wool for spring and summer suiting and were pleased to open their showrooms to invited guests, offering garments made in Cool Wool and cut specifically for this fashion event.

And after a 20 year hiatus from the catwalk, the quintessentially British Savile Row tailor and contemporary menswear company Richard James returned to the runway and presented Cool Wool to a host of invited guests, including Sir Elton John and celebrated fashion reporter Suzy Menkes.

"AWI was proud to support Savile Row for this event," AWI Chief Strategy and Marketing Officer Rob Langtry said. "This inaugural event was a fantastic way to raise the profile of Australian Merino and

More information: www.coolwool.com

www.woolmark.com/innovations/cool-wool

BUILDING DEMAND INKOREA



GS Home Shopping vice-president Kim Sangdeok with Tim Cathles from 'Athelington', the property where the online retail giant filmed part of its documentary to promote the origins of Australian Merino wool.

WI and GS Home Shopping in Korea have established a marketing partnership to increase Korean consumers' awareness of Australian Merino wool.

GS Home Shopping is the world's third largest online retailer and is a Woolmark and Woolmark Blend licensee, selling affordable and quality woollen products, increasing these volumes by 20 per cent in the past three years.

From January 2009 to June 2011, Australia exported 11,838 tonnes of greasy wool to Korea, making the country the world's sixth biggest importer of raw Australian wool.

AWI country manager for Korea, Hyunwon Lee, said AWI has been working with GS on a joint marketing project to enhance Korean consumers' awareness and education of the origins of Australian Merino.

"Australian Merino has so many interesting stories and wonderful benefits to tell, which is why GS wishes to develop a new consumer marketing program focused on the green and natural story behind Merino wool," Mr Lee said.

Representatives from GS recently visited the 'Athelington' property near Canberra to film on-farm activities for its wool tracing program, with the short film to be shown in the coming Autumn/ Winter season during the GS wool apparel sales programs.

During this same visit to Australia an official signing ceremony took place at AWI's Sydney office, at which AWI CEO

- AWI has formed a marketing partnership with the world's third largest online retailer, GS Home Shopping.
- The Korean-based company recognised that its customers are becoming increasingly interested in product provenance and the story behind their purchases.
- GS representatives visited Australia and made a short documentary detailing on-farm activities and the new product tracing program.

Stuart McCullough and GS vice-president Kim Sangdeok formalised the partnership.

"The main goal of this partnership is to increase market attention to the Merino tracing program launch, highlighting the natural, biodegradable and renewable benefits; increase the demand for Merino wool; and encourage the local industry and retailers to participate in the Merino marketing program," Mr Lee said.

"Korean consumers have a growing desire to know exactly where the products they buy originate. It is not just about buying an actual product, but also buying the story behind the product. This is why GS plans to put its marketing priority on the authenticity of Merino wool products through the implementation of a tracing program from the upcoming Autumn/ Winter season."

Through the GS TV channel and mobile video clips, GS will be able to show the origins of Australian Merino wool, from the marketing partnership signing ceremony in Sydney right through to on-farm activities. This will be accompanied by 20,000 outfits of Merino wool knitwear made from Athelington wool, merchandised by GS and specially promoted as a premium edition under a private GS brand.

"We trust the launch of the corporate wool marketing partnership and tracing program with GS will contribute to increasing the demand for wool and also encourage the positive attributes of Merino woollen products on the online retail sector," Mr Lee added.

Wool hits a home run

FAST FACTS

- Working alongside Woolmark licensee Peerless Clothing, AWI promoted wool apparel at a Men's Style event held at Macy's flagship store in New York City.
- The event was a chance to promote the benefits of wool to a younger demographic of customer.
- Shoppers who purchased a wool item had the chance to take a commemorative photo with NY Mets baseball star David Wright.

The promotion of Merino wool took centre stage at a men's styling event held at Macy's flagship Herald Square store in New York City - the store that covers a whole city block and which was known when it was built as the "world's largest store". Held twice a year, the Men's Style event offered all the latest styling tips for men's fashion and was a joint initiative by Macy's and Details magazine. Consisting of shopping offers and competitions, the event ran from 31 May through to 3 June, with the opening night of the event kicking off in stylish fashion.

AWI was a promoting partner of the event, focusing on the men's tailored clothing department. Working alongside Woolmark licensee Peerless Clothing – one of the largest users of wool in North America – Australian Merino wool was promoted throughout the night, as well as how to care for Merino woollen apparel.

NY Mets baseball star David Wright was special guest of the evening launch event, with the first 200 people to purchase a wool item from the men's department given the opportunity to have a commemorative photo with the sports player.



AWI Key Account Manager for the Americas, Sonny Puryear, said the event succeeded in its goal of raising awareness of the benefits of wool and introducing it to a new consumer.

"Events like these are important as they expose a new customer to the Woolmark brand and the Merino fibre," Mr Puryear said

"In this particular case more than 40 per cent of the readership of

Advertising for the Men's Style event at Macy's flagship store in New York City.



Having a commemorative photo with NY Mets baseball star David Wright was an added incentive for customers to make a woollen purchase at the Macy's event.

Details magazine is aged between 18 and 34 years. This is the market group that more often than not knows very little about Merino."

"Style tips were well-received by those who attended the event as well as by Macy's staff. On top of this we also handed out Merino Care brochures, to ensure customers were aware of how easy it is to launder Merino woollen apparel.

"The fact that Peerless Clothing is one of the largest users of wool in North America and produces more than 60 million suits each year offered those in attendance extra reassurance about Merino woollen apparel."

Peerless Clothing produces more than 50 per cent of Macy's men's suits, sports coats and suited separates, as well as product for Macy's private brands, eight licensed brands and a Peerless-owned brand.

Peerless Clothing representative Suzanne Anderson said the event was a great success, promoting wool which would not only increase sales but also benefit Merino woolgrowers as a new generation of consumers becomes aware of the fibre's wonderful properties.

"Macy's customers were enthusiastic to learn about the benefits of wool as they made their wool purchases and got their photo taken with New York Mets star David Wright," Ms Anderson said.

"It was a great evening promoting wool."

Wool4Skool winners announced

FAST FACTS

- AWI's Wool4Skool competition has been building an awareness of the natural benefits and versatility of wool among a new generation.
- Students entering the competition had to submit fashion design sketches of their interpretation of "Modern Australia".
- Teachers were also encouraged to get involved – the competition was aligned with a number of syllabus areas of the curriculum.

Australia's multicultural population, bushfires, floods, sunsets and Australia's famous coastline are all featured in the winning Wool4Skool designs for 2012.

Planned within the classroom syllabus for year 9 and 10 Design and Technology students, Wool4Skool offers a real-life fashion design experience using fine Australian wool.

Over 200 schools around Australia received 3600 fabric packs containing Merino fabric samples to inspire year 9 and 10 students to draw and interpret their version of "Modern Australia" in a garment. The Wool4skool project represents the first time wool has been placed within the formal school curriculum at this level.

The 240 final student entries were judged by fabric, design and fashion experts including leading fashion designer Jonathon Ward, award winning Design and Technology teacher Katrina Wheaton-Penniall and AWI textile expert Roy Kettlewell.

The overall winning student design came from Brooke Pearce of the Southern Highlands Christian School, Bowral, NSW. The design is inspired by Australia's multicultural nature and features a colourful reference to the molecule of life, DNA. Her design will now be made into a finished garment by Jonathon Ward and earns Brooke \$2500 in prize money and a fashion shoot of the winning garment in Girlfriend magazine.

"Brooke's entry displayed a very good understanding of the characteristics of Merino wool and its versatility, Mr Ward said.

"She converted her mood board inspiration into a unique garment design. I look forward to working with Brooke and making the piece and in doing so giving Brooke a sense of the fashion industry from my perspective." The teacher that best incorporated Wool4skool into the classroom was Kelcie Bryant of St Patricks College, Campbelltown, NSW. Ms Bryant adapted the significant teacher resources available on the Wool4Skool website into the classroom of 40 year 10 students, with 19 student entries. Ms Bryant has won \$2500 for her innovative adoption of wool4skool.

Creators of the Wool4skool project, AWI's Marius Cuming and Renee Trad thanked all schools that participated this year, saying the feedback from teachers was very encouraging and they looked forward to expanding the project further in 2013.

"It has been terrific to have so many school students thinking about wool, feeling the Merino fabrics and getting an appreciation for a natural fibre that has such a strong connection to Australia's heritage as well as our future," Mr Cuming added.

All students who submitted an entry will receive a Wool4skool certificate of participation.

More information: www.wool4skool.com

The following state Wool4Skool winners will receive a wool prize pack from AWI:

- Queensland: Mercedes Rigby-Ellis, Sunshine Beach State High School.
- South Australia: Samantha Farrell, Murraylands Christian College, Strathalbyn.
- Victoria: Kate Donaldson, Penleigh and Essendon Grammar School.
- Tasmania: Tessa Parsons, The Friends School, Hobart.
- Western Australia: Natalie Fretton, Great Southern Grammar, Albany.



Part of the winning 2012 Wool4Skool design created by Brooke Pearce, Southern Highlands Christian School, Bowral, NSW.

World record for wool!

FAST FACTS

- AWI is helping drive the agenda for wool on social media platforms to generate positive online conversation about wool.
- AWI's "Wrapped in Merino" social media campaign has set a world record for the longest social scarf.
- AWI's 'We Love Wool' fan page on Facebook is now a global hub for consumers, with more than 200,000 fans, building awareness of the fibre and its benefits.

WI is continuing to boost its use of "social media" on the internet to help reconnect a new generation of consumers with the natural wonders of wool. AWI's most recent campaign has even set a Recordsetter world record – for the world's longest social scarf.

The 'Wrapped in Merino' campaign, which ran on Facebook and as a microsite, connected people in social media as they collaboratively designed a giant virtual wool scarf. Each participant created their own section of the scarf, adding their photo and customising the scarf design, before sharing it with their friends through Facebook, Pinterest and Twitter.

16,460 social media users, and wool lovers, worldwide participated in the twomonth campaign.

'Wrapped in Merino' follows on from the hugely successful 'Find Fashion by Feelings' campaign and has added to the popularity and interaction of both the We Love Wool and Woolmark Facebook communities.

The 'We Love Wool' fan page on Facebook (www.facebook/welovewool), launched by AWI in June 2011, has become a global hub for consumers, growing awareness of the fibre and its benefits. There are now more than 200,000 fans.

AWI's Chief Strategy and Marketing Officer Rob Langtry said the company is helping drive the agenda for wool on Facebook and other social platforms to generate positive online conversation about wool.

"The Wrapped in Merino campaign is another step forward for us in connecting people with wool through social media," explained Mr Langtry. "We are seeing great organic growth and interaction in our social media communities, and campaigns like these deliver us a great spike of engagement."

More information:

To connect with AWI's consumer facing social media initiatives, visit:

Wrapped in Merino microsite www.wrappedinmerino.com We Love Wool page on Facebook

www.facebook.com/welovewool We Love Wool on Twitter www.twitter.com/welovewool Woolmark page on Facebook www.facebook.com/woolmark Woolmark channel on YouTube www.youtube.com/ woolmarkonline



www.wrappedinmerino.com

Sam the Lamb

Complementary Sam the Lamb website to teach children about the origins of wool on-farm through to its processing and manufacture into clothing.

AWI's Chief Strategy and Marketing

Officer Rob Langtry said the Sam the Lamb website and iPad app are examples of reconnecting a new generation with wool using the latest digital technology.

"These are simple and fun ways to get young people across the world understanding the natural benefits of wool, an education that will stay with them for life. This is a clever development of an educational comic book The Woolmark Company developed many years ago. It's fun, informative and very Australian," Mr Langtry says.

"Over time we will look for these low cost, highly effective ways to talk to various groups of younger consumers in their own language about why wool should be an important consideration in what they choose to wear and buy."

More information: samthelamb.com



Good morning Vietnam

FAST FACTS

- AWI is looking to develop a sustainable supply chain for Australian wool in Vietnam.
- After visits and meeting with potential partners, the key message to emerge is that "the time is right for wool" in Vietnam.
- Vietnam offers an alternative to relying so heavily upon China as the major buyer of Australian greasy wool.

A new manufacturing market is emerging which promises big things for the promotion of Australian Merino wool.

AWI's 'Out of Vietnam' project aims to develop a sustainable supply chain in Vietnam and expand its current manufacturing sector.

With Australia currently sending about 80 per cent of its wool to China and becoming increasingly reliant on this country, AWI saw the need to develop a new processing and manufacturing market for Australian wool.



AWI General Manager for Product Development and Commercialisation Jimmy Jackson showing Australian Merino woollen fabrics to prospective partners in Vietnam.

And, according to AWI General Manager for Product Development and Commercialisation, Jimmy Jackson, Vietnam ticked all the right boxes.

"We conducted extensive studies into alternative countries, but Vietnam came out number one," Mr Jackson said.

"Vietnam meets a host of essential criteria, including: its low sovereign risk; it has a large, well-established textile manufacturing industry and infrastructure; a large, skilled workforce; it is already a large and growing exporter of textile products; it has large trade access including a Free Trade Agreement with the USA; and an abundant supply of water."

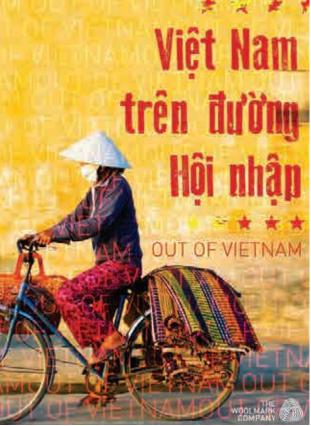
The Out of Vietnam project will initially focus on the knitting sector with plans to move to wovens at a later date. AWI has already made contact with more than 30 organisations, and after numerous visits to Hanoi and Ho Chi Minh City one key message continued to emerge: The time is right for wool.

"We have received a fantastic response to this project," Mr Jackson said. "Apart from the 30 partners we also have four new wool spinning plants looking to invest as well as about 20 knitters."

CEO of CANIFA – one of Vietnam's leading apparel retailers and knitwear manufacturers – Ms Doan Thi Ngoc is a firm believer there is a bright future in developing a sustainable supply chain for Australian Merino wool in Vietnam.

"It is the right time for wool in the Vietnamese knitting Industry," Ms Ngoc said.

"For years we have produced knitwear from either acrylic or cotton, but we need to produce more premium added value



products, and Australian wool without doubt, is the first choice.

"With the support and assistance of The Woolmark Company's technical expertise we are confident that we can produce wool knitwear to international standards in terms of design and quality."

Vietnam has a low-cost, high-skilled workforce and is not afraid to invest in modern machines. And with superb experience working with cotton and manmade fibres the future for setting up a wool manufacturing industry looks promising. It is the world's second largest exporter to the USA and the third largest to Japan. It is also a top destination for Korean companies for investment in textiles.

Already, a healthy relationship has been established between AWI and Vinatex – the government arm of the Vietnamese textile industry.

"Because of this established relationship, AWI is honoured to have been invited to participate in next year's 40th anniversary celebrations for diplomatic and trade relations between Vietnam and Australia," Mr Jackson said.

"We are also planning to host to two fashion shows held as part of the celebrations, one in Hanoi and one in Ho Chi Minh City, showcasing a collection of garments all made from Australian Merino wool and illustrating the motto 'Grown in Australia, Made in Vietnam'." Reduce Cheesy Gland from around 31% to 3% when you vaccinate twice with Glanvac® B12.



Cheesy Gland is a common bacterial disease and estimated to cost the Australian Sheep Industry around \$30 million per year.¹ It is highly contagious and is usually spread at shearing, dipping and after mustering or yarding sheep. For optimum protection Glanvac lambs twice, once at marking and a 2nd dose at weaning, followed by an annual booster.

> For more information contact your Pfizer Representative or call 1800 814 883 (Option 4).



Reference: 1. Paton MW et al. Prevalence of Caseous Lymphadenitis and Usage of Caseous Lymphadenitis Vaccines in sheep Flocks. AVJ 2003;81(182):91-95. www.pfizeranimalhealth.com.au Pfizer Australia Pty Ltd, 38–42 Wharf Road, West Ryde, NSW 2114. ABN 50 008 422 348. @Registered trademark of Pfizer Australia. Aug 2012. AM712 PAL0744/BTB.



2nd dose at weaning



Merino medical

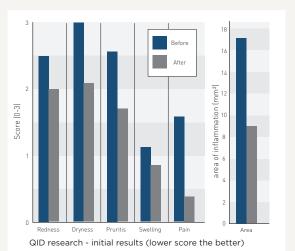
FAST FACTS

- An AWI-funded study undertaken by the Queensland Institute of Dermatology is challenging the conventional treatment of atopic dermatitis.
- The pilot study has shown that wearing suitably specified fine Merino products will not irritate the skin's surface but in fact benefit those suffering from chronic skin conditions.
- The study also challenges public perception that wool is "prickly and itchy", and may open the doors to new high value product markets.

A major challenge for the global wool industry is that about four in 10 consumers globally associate the word 'wool' with 'prickle and itch', and one in 10 thinks wool is an allergen. In some of our key markets, such as China, this belief is held so strongly and widely that it acts as a major barrier to having consumers and even paediatricians consider trialling wool for baby wear.

As a result, conventional dermatological wisdom is for people with sensitive skin to avoid wearing wool.

Now, in what may come to be seen as a major breakthrough in this perception battle, a dedicated research team at the Queensland Institute of Dermatology (QID) has been exploring the role that superfine Merino knitwear has in the treatment of chronic dermatitis conditions, such as



Research leader Dr Lynda Spelman, Teagan Holland, Kurt Davidson and study facilitator Dr Eshini Perera examine the Merino apparel used in the study.

atopic dermatitis.

The observations of the QID study might have major ramifications in how wool is perceived, and open doors to new high value product markets.

Due to a reduced ability of their skin to retain moisture and resist infection, chronic sufferers of atopic dermatitis are faced with a lifetime of needing to constantly apply skin moisturisers, avoid heat, and often rely on prescribed anti-inflammatories in the form of topical steroid and antibiotic creams, and even oral antibiotics to manage their conditions.

> Led by QID's Dr Lynda Spelman, a pilot study funded by AWI has been exploring the impact of wearing fine Merino over the affected areas of the skin for sufferers of atopic dermatitis. This chronic condition is becoming increasingly prevalent and affects 8-20 per cent of children.

The working hypothesis has been that suitably specified fine Merino products would not irritate the delicate skin surface, and in fact create a beneficial microclimate which reduces the rate of epidermal moisture loss, skin drying, and therefore bacterial infection risks and the desire to scratch the itch ("pruritus").

The early findings of this study have excited both AWI and the clinical dermatology research team.

QID recruited 30 long-term sufferers of chronic atopic dermatitis (both male and female) and trialled Superfine Merino knitwear as alternatives to their typical clothing – these consisted of commercially available underpants, longsleeve tops, gloves and socks, as well as custom-made bras. The patients were monitored across a six-week period, with four examinations before the Merino wool garments were used and three examinations post-Merino wool.

"These initial results have truly been amazing," Dr Spelman said. "We have seen substantial reductions in skin dryness, redness and itchiness, and in the measured area of inflammation – and for a number of the patients, this is the first time a real solution to their condition has been presented.

"Wool appears to be keeping the relative humidity of the wearer's skin at the levels it should be, preventing it from becoming too dry, or too wet.

breakthrough

"The finding will probably be controversial in dermatological circles, but all of us here at QID are inspired to continue this study for a longer period of time."

For AWI's Group Manager of Market Intelligence and Reporting, Dr Paul Swan, the results are both extremely positive, and not surprising.

"A major focus of AWI's investment program is validating and communicating the health and wellbeing benefits of wool products," Dr Swan said. "There is a strong trend in the market towards healthy and environmentally friendly products, and wool's natural attributes make it very suitable as an integral part of everyone's health regime.

"Our suspicion has been that by actively buffering the skin surface moisture and temperature levels, Merino wool would alleviate some of the symptoms caused by atopic dermatitis - acting as a second skin.

"While it is early days for this stream of research, the results are extremely encouraging. If as successful as we expect, the findings from Lynda's team are potentially profound for both the wool industry, but also sufferers of this debilitating, life-long condition."



Chronic sufferers of atopic dermatitis are faced with a lifetime of needing to constantly apply skin moisturisers, avoid heat, and often rely on prescribed anti-inflammatories.

Changing perceptions of wool

pilot study funded by AWI and undertaken by the Queensland Institute of Dermatology (QID) has produced unforeseen results and converted the most sceptical of sceptics

"One woman told me she had not been able to wear a bra in 25 years," QID research

"THEY HAVE BEEN

THE OUTCOMES

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CONVERTED TO

MERINO WOOL."

THEY HAVE BEEN

SO IMPRESSED WITH

CONTINUE TO WEAR

DR ESHINI PERERA, QID

co-ordinator Dr Eshini Perera said. "The look on her face when she told me of her joy when she not only wore one but wore one with comfort was priceless.

"Another patient told me the level of skin disease on her

feet was so chronic she used to have to bind them. But after taking part in our six-week pilot study and wearing the provided Superfine Merino wool socks, her feet looked just like everyone else's. She called it 'a success story'.

"We recruited 30 patients, many of whom went into the trial a little uneasy, doubtful that Merino wool garments could alleviate some of the chronic itch and inflammation they had been carrying for years.

"They have been so impressed with the outcomes of this trial they want to continue to wear the garments. They have been converted to Merino wool."

This pilot study could perhaps be looked at as a medical breakthrough

in the world of skin disease where conventional treatments for atopic dermatitis such as topical steroid cream, daily moisturisers, oil baths and oral medicine have been the norm for quite some time.

"After trialling next-to-skin Superfine Merino garments the patients reported not only reduced doses of prescribed medication but also significant results in the look and feel of their skin."

Dr Perera said the study had already exceeded expectations, given that the patients in the trial had chronic, debilitating and sometimes painful conditions. Initially it was hoped the patients would merely tolerate the supplied

> garments, but according to the research team at QID the trial has led to a change in management

One patient even told Dr Perera "she thought it was a load of rubbish", but now savs "she has not

looked this good in 25 years".

With common misconceptions that wool is an irritant and exacerbates itchy and dry skin, this pilot study may help change the public perception of wool, describing it as not only a low allergy risk, but also a low irritant with a therapeutic effect.

All the garments used in the trial, except for the custom-made bras, are commercially available. Hence, any sufferer of skin disease is able to see for themselves the benefits of Merino wool undergarments.

"Some of the patients are even keen to try Merino woollen garments with their children and most patients said they would continue to wear Merino."

plans.

YOUNG FARMING CHAMPIONS Bridging the rural-urban divide

elping bridge the divide between the city and regional areas, the 2012 Young Farming Champions (YFC) are breaking the stereotypes of the conventional Australian farmer.

Co-sponsored by AWI, the initiative is a program developed by Art4Agriculture – a network of young people who share a passion about teaching others the pivotal role Australian farmers play in feeding and clothing the world.

This program will not only help build the capability of young rural people to farm with resilience and confidence, but it will provide a great platform to spark the next generation's interest in an agricultural career.

Lauren Crothers from Dirranbandi, Queensland, Kathleen Allan from Yass, NSW, Sammi Townsend from Lyndhurst, NSW, and Stephanie Grills from Armidale, NSW were the four recipients chosen to represent the wool industry and be trained to become local faces of sustainable primary production. They will go to schools participating in another Art4Agriculture program - the Archibull Prize - to engage



Kathleen Allen from Yass, Lyndhurst's Sammi Townsend and Lauren Crothers from Dirranbandi are future faces of Australia's wool industry and current Young Farming Champions.

with the students, share stories and improve understanding about farmers and farming, and work together to find possible solutions to the challenges facing the wool industry and the wider community.

AWI Education and Extension Program Manager Claudia Wythes said the program was a great way to not only communicate the key messages of the wool industry, but also deliver a positive message about the next generation of Australia's farmers.

"Our four young farmers have been chosen to identify and showcase the new generation becoming involved in the wool industry," Ms Wythes said.

"Sending the Champions to urban schools participating in the Archibull Prize, which uses art and multimedia, gives city students an insight into modern agricultural practices and the efforts our farmers undertake, and in turn provides farmers with a better understanding of their urban customers.

"The program also provides an opportunity for AWI to raise awareness of wool whilst mentoring those already participating in the industry."

Creating connections with real people in the industry will help bridge the rural-urban divide and, according to Art4Agriculture's national program director Lynne Strong, will portray agriculture as a

Young Farming Champion Stephanie Grills from Armidale with a mob of sheep.

FAST FACTS

- Four young Australians have been selected Young Farming Champions (YFC) for the wool industry and are sharing their passion for wool with urban students.
- The YFCs aim to educate their generation about the wool industry and show there is a bright and prosperous future in it.
- The program allows AWI to mentor the young faces of wool as well as raise awareness of the fibre.

Sel.

Desire States

dynamic, innovative and rewarding career pathway and help ensure the future of Australia's wool industry remains strong and prosperous.

"The Young Farming Champions program is not a leadership program, but it does deliver leaders," Mrs Strong said. "It will engage and educate the next generation of consumers by allowing the Champions to tell their story, in this case of how they have worked in the wool industry.

"The Champions will highlight the productivity gains in the wool industry and how they are increasing agriculture's sustainability. They not only have an enormous impact on the schools they visit but also gain unique industry experience from participating in the program.

"Not only do they receive intensive training and professional development, they also gather insights into how and what consumers think about food and fibre production.

"We have an outstanding group of professional young farming champions this year and Art4Agriculture is very proud to be working with them. I am confident wool producers will be equally proud that they are the young faces of the wool industry."

More information: www.art4agriculture.com.au

Sharing the passion for wool

Lauren Crothers loves her woolly jumpers, so much so that they form the basis of her story – a yarn which gained her the title of a Young Farming Champion (YFC), an initiative instigated by Art4Agriculture and co-sponsored by AWI.

Miss Crothers is joined by three other young Australians who feel so passionate about the future of Australia's wool industry that not only are they choosing to make a career from it, but as YFCs they are educating other young Australians about the industry's importance.

The 19-year-old Agribusiness student was also honoured to receive a Horizon Scholarship, funded by AWI. The Horizon Scholarship is an initiative of the Rural Industries Research and Development Corporation (RIRDC) that, in partnership with industry sponsors such as AWI, supports undergraduates studying agriculture at university.

Hailing from Dirranbandi, Queensland, Miss Crothers is a firm believer that every family needs a farmer. And it is evident from her YFC blog that this teenager is passionate about inspiring the next generation about a career in agriculture, in particular the sheep and wool industry.

"I'm crazy about sheep," Miss Crothers writes in her YFC blog. "And I bet if you knew just how impressive our wool industry is you would be just as proud of Australia's sheep as I am."

Growing up on the family property 'Booligar', Miss Crothers said her father placed more focus on cotton than he did on sheep much to her disappointment.

"This however didn't stop me; I was constantly visiting my aunt and uncle's property at Tara where I could always be found following a mob of sheep or helping in the yards.

"Shearing time was my favourite, where the smell of lanolin drifted around the shed and embedded into my clothes. This is where I believe my love for sheep and the wool industry started."

Her love and passion for this industry continued to bloom after high school during a working gap year as a jillaroo. For the better part of the 13 months on the commercial sheep station northwest of Warren, NSW, the



Queenslander Lauren Crothers has been named a Young Farming Champion and a recipient of a Horizon Scholarship. The teen is showing the nation that wool industry's future is promising and is encouraging others to join it.

17-year-old worked solely with her boss. It was during this time it became apparent to the bright-eyed teen it was becoming increasingly difficult to find young people interested in the sheep and wool industry.

"At times it was lonely, tiresome and very physical, but I absolutely loved it. It taught me a number of key things including responsibility, independence and an enormous amount about sheep and wool."

After entering into a Bachelor of Agribusiness, Miss Crothers went into partnership her twin sister and another friend. The trio bought a mob of sheep, learnt how to shear and has hopes to not only increase the size of the current mob but also produce high-quality Merino wool and breed Merino rams.

"I hope that my story is able to inspire the younger generation to become involved in the agriculture industry and in particular the sheep and wool industry.

"I know that without a doubt my future lies within the agricultural industry and I hope by sharing my journey I can inspire others to travel in my footsteps."

More information: www.rirdc.gov.au www.art4agriculture.com.au

Technique inspires shearer shift

FAST FACTS

24

- The country's very first all-female novice shearing course was hosted by TAFE Western at Dubbo, NSW, in May.
- More women are showing an interest in joining the shearing industry, as shearers as well as wool handlers.
- An increased focus on shearing technique rather than shear power is allowing the women to join the industry.

Fit, wiry men dripping in lanolininfused sweat may have epitomised the Australian shearer in years gone by, but they've now got competition.

Men are increasingly being accompanied on the shearing board by more petite yet determined women who have an equal love of the shearing industry – and they're here to stay.

The country's very first all-female novice shearing course was hosted by TAFE Western at Dubbo, NSW, in May, where 12 women assembled to sharpen their shearing skills. The two-week program focussed on the finer points of shearing technique – working to balance their 60-kilogram-plus counterparts, instead of trying to overpower them. "It was a great fortnight – absolutely brilliant!" said TAFE Western shearing trainer, Jim Murray.

The course concept was coined after the formation of an exhibition all-female shearing team in February (as featured in the June edition of *Beyond the Bale*), which sparked plenty of interest among other potential female entrants to the industry.

Jim said where female shearers may lack in speed, they excelled in the quality of their work.

"The girls have got a lot of empathy when they're shearing a sheep and their hands are naturally light, so they do a very good job on the sheep," he said.

"One of the big things this school has done is to allow girls who may not have been confident to have a go in the shed, come here and not be afraid to get in and have a go.

"There will be some very good shearers come out of this school and within 12 months a lot of these girls will be shearing 120 and 140 a day, which is where a boy will be in roughly the same timeframe. But it's not always about numbers - it's also about the quality of the job. Plenty of contractors have lost jobs because the quality wasn't there."

Jim said he envisaged the opportunity for an all-female 'school mum' shearing team

to service smaller flocks during school hours.

"If you look at Orange, for example, there are a lot of small holdings there with less than a 1000 sheep and a school mum team could go in while the kids are at school to do those sorts of jobs," he said.

"There's room in the industry for the all-male teams, the co-ed teams, the allfemale teams, and the teams with flexible hours to suit school mums too.

"With the national sheep flock rebuilding, we're obviously going to need more shearers to shear these sheep, and what better way to encourage young blokes into the industry than to have young women in the industry?

"I know whenever I was working in sheds and a girl came in, I went up 10 a run!"

The 2006 Australian Bureau of Statistics (ABS) Agricultural Census put national shearer numbers at 4173, and 97 of these were women.

Women are increasingly getting themselves educated to take on maledominated careers, and this trend is being observed right across Australian agriculture.

At Tocal Agricultural College, near Maitland, 72 percent of those enrolled this year are female, and they're being prepared for a high-tech agricultural industry with a greater focus on business skills.





Part-time fire fighter, Kaye Bradtke, Grenfell, NSW.

KAYE BRADTKE

Kaye Bradtke, 32, was raised on her family's 810-hectare Merino sheep/wheat property at Grenfell, in Central West NSW, and despite always carrying a deep-seated love of the land, she now resides part-time in Canberra where she works as a fire fighter.

"From the time I could talk, Dad couldn't walk out the door without me," she said. "I just loved being out on the farm at every opportunity. My heart's always been back at the farm but the money's just not there to support me."

Even so, Kaye went off to university at Bathurst after high school to study for a Human Movement degree, and later found out about the "firies".

"I liked the mental and physical challenge of being a fire fighter, where you can do all the training but no two situations are the same."

Eleven years later, and Kaye's love of the land continued to haunt her – prompting her to attend the TAFE Western shearing course in May.

"I've dabbled in shearing since I was about 18 years old," she said. "Dad used to shear and is very good but he uses the old-school technique that's very hard on your body. I wanted to learn the modern technique, which is about balancing the sheep more so it's carrying more of its own weight, positioning the sheep so you don't have to reach as far and twist your body as much, and better footwork to get into those positions."

The same love of a physical and mental challenge that attracted Kaye to become a fire fighter 11 years ago has her now captivated by the craft of shearing.

"I think it's great that so many women are getting into shearing. I work all the time with men so it doesn't make any difference to me that shearing is male-dominated."

Kaye said her family occasionally had the odd small mob of sheep for her to shear, and now she would attack those jobs with a whole new perspective on technique.



Megan Perrin, Reid's Flat, via Cowra, NSW.

MEGAN PERRIN

When Megan Perrin, Reid's Flat, near Cowra, was 16 years old and making her career choice, it was little wonder that she chose wool handling.

As the youngest of four, her two sisters had already made their careers as wool handlers, her brother was a shearer, as was her brother-in-law.

"It was good money for a 16-year-old and it was easy," Megan said. "You didn't need to have any training – all you had to do was work. By the time I was 20 or 21, I began to realise the ability to travel as part of being in the industry and I worked as a wool handler around Ivanhoe, Hay, Booligal, and then headed to Queensland. I went up there for every season, February to May/ June, over a period of six years."

For many women, becoming a single mother at 25 would spell the end of such a physically demanding career, but not Megan. "I WANTED TO LEARN THE MODERN TECHNIQUE, WHICH IS ABOUT BALANCING THE SHEEP MORE SO IT'S CARRYING MORE OF ITS OWN WEIGHT" KAYE BRADTKE

"I started cooking after I had Jack and would drag him out to the sheds with me, while his father was shearing, and he would curl up and sleep on a fleece at the end of a spare wool table."

Jack is now 13 and had a full appreciation of just how much his mum loved her career.

"I've always wanted to be able to shear since I was in my early 20s but I was shy and no one would show me so it is now something that I really want to do, and I love it," Megan said. "I also want to get more financially secure, so now's the right time to get the training and get into it."

The industry-wide shortage of roustabouts meant that up until March, Megan had been too valuable to her boss as a 'rousie' to be transferred to a learner shearer's pen.

Continued overleaf...



Shearing technique being demonstrated to the class of captivated female students.

After securing her much-desired shearer's pen, she went on to learn all about positioning and grinding gear at the TAFE Western female shearing course in May.

"I'm 39 and want to make it easier. If you don't learn properly, you hurt yourself. Once you get your position right, you can run your blows better and if your gear's cutting right, your sheep's going to sit better for you without kicking, and you do a better job."

Megan acknowledged her career choice as a single mother could be tiring but the money and freedom made it all worthwhile.

"It's sometimes very tiring because I still have to come home and cook meals, wash and clean, but you just have to have a routine," she said.

"Jack always asks me, 'how many did you get today, Mum?' If I tell him I got 29 Dorpers, he'll laugh because he knows Dorpers are much easier to shear than Merinos. A 96 is my best tally for a day in Merinos, so I would love to now go on and do my 100 easily, and go up from there."

As the 12 female shearing students make their way out to assess their day's efforts at the let-out pens, Jim adds a few words of encouragement.

"To date, there has been not one sheep go out of this shed that we needed to bring back up for a re-shear," he says.

The women celebrate the news in playful chorus: "hip, hip, hooray."

PostScript: To assist the promotion of shearer and wool handler training, AWI is pleased to announce former head shearing trainer with TAFE NSW Western, Jim Murray, has recently joined the AWI shearing industry team.

TRAINING DVDS

Available from AWI are six DVDs to aid in the training of novice and skilled shearers and wool handlers:

- Novice Shearing
- Improver/Professional Shearing
- Wool Handling and Shed Skills
- Experting and Grinding
- Wool Industry Workouts
- Crutching Techniques

To obtain the DVDs, contact the AWI Helpline on 1800 070 099.

AWI has also produced a six minute summary video, showing how to shear a sheep, which is available on YouTube at:

www.youtube.com/awiwoolproduction

OVER 2000 SHEARERS AND WOOL HANDLERS TRAINED

Through AWI, woolgrowers have trained 2190 shearers and wool handlers over the 12 months of the 2011/12 financial year.

An additional 372 participants attended crutching and other introductory workshops. These workshops serve an important role in introducing new participants to sheep handling and the operation of the shearing handpiece

While the majority of AWI's investment in shearing is in shearer and wool handler training, AWI is also trying to further enhance the image of the shearing industry by supporting regional, state, national and international competitions as well as shearing demonstrations and vocational training in high schools.

AWI Program Manager Shearing and Industry Development Ian Evans said, "A good shearer can earn as much money as someone working in the mines, but a lot of people don't consider it as a career option. We are not only working to train the shearers and shedhands of the future but to present the entire industry as a great career option".

While AWI is doing its bit to train more shearers and wool handlers, Mr Evans said it takes the whole industry to ensure the new entrants are retained.

"If we want to retain these new professionals we need to make sure we support them with the right working conditions. The sheds that find it hard to attract shearers are often not attractive to work in. Professional shearers and wool handlers deserve a professional workplace and accommodation, where it's needed."

AWI'S PREFERRED SHEARING AND WOOL HANDLING TRAINING PROVIDERS

To find out more about the AWI training program and/or government-funded training initiatives, please contact AWI's preferred training provider in your state.

STATE	PROVIDER	CONTACT
NSW	TAFE NSW – Western Institute	Mike Pora, 1300 666 292
	TAFE NSW – Riverina Institute	Graeme Anderson, 1800 441 244
VIC	SCAA Shearer Woolhandler Training Inc	Darren Templeton, 0427 435 244
	RIST – Rural Industries Skills Training	Marjorie Carpenter, 1800 883 343
WA	CY O'Connor College of TAFE (Northern Region)	Stephen Madson, (08) 9881 9000
	Great Southern Institute of Technology (Lower Southern Region)	Peter Young, (08) 9892 7551
SA	TAFE SA	Bob Reid, (08) 8303 7822
QLD	Australian Agricultural College Corporation (AACC)	Carolyn Doyle, 1800 888 710
TAS	Primary Employers Tasmania (PET)	Keith Rice, (03) 6343 2244

Shearing easy with **ShearEzy**

FAST FACTS

- Peak Hill Industries released in June a new version of the ShearEzy Upright Posture Shearing Platform that is a more compact machine with extra adjustments for various sized sheep.
- The *ShearEzy* is a result of AWI's investment in new technologies designed to make wool harvesting easier, more efficient and safer.
- The latest *ShearEzy* costs \$15,100 plus GST from Peak Hill Industries and is suitable for farmer shearers or contractors.

The Peak Hill Industries *ShearEzy* shearing system is a successful alternative to 'on the board' shearing. It provides the shearer with a comfortable 'stand up' working environment and eliminates the need to catch and drag sheep. It also provides for the highest standard of wool preparation, and includes the latest shearer safety technology

The ShearEzy is one of the products resulting from AWI's investment in the development of Upright Posture Shearing Platforms. Several different versions of the ShearEzy have been built and trialed since 2005 and the product has been commercially available since late 2007. The latest version was released in June 2012.

The new *ShearEzy* air operated system consists of a shearing platform with an integrated parallel sheep loader. Sheep walk into the loader via an inclined nonbackup ramp and are confined until ready to be shorn. The loader clamps the sheep then tilts and inverts the sheep placing it on the platform. The sheep is crutched in this restrained position; it is then released from the clamp and the rear legs are restrained as the sheep lies horizontal between the hinged up wings of the platform. The rotation of the leg restraints and the hinged movements of the two wings allow the shearer to mechanically manipulate the sheep to each desired position through the shearing process.



Optimal flat surfaces are provided for the shearer which enables long continuous blows around most of the body of the sheep.

The Heiniger EVO anti-lock technology and attached to a balanced boom and flexible drive is recommended for improved safety and productivity.

Bill Byrne of Peak Hill Industries says the first and most noticeable difference with the new *ShearEzy* is its size and the galvanised sheet metal appearance.

"The height and overall length have been reduced and the sheep enter the machine at a lower level, encouraging better sheep flow. Much less space is required for operation as the fleece is removed on the same side on which the sheep is shorn," Mr Byrne said.

"There are also many more adjustments than previous versions both for the size of sheep and the operator. The main unit can be reduced to 1.8 metres long and 1.2 metres wide and comes fitted with large solid rubber wheels. If required *ShearEzy* can be moved about and easily and quickly rolled onto a ute or trailer."

The new design, use of different materials and manufacturing techniques has enabled the price of the new *ShearEzy* to be reduced to a cost of \$15,100 plus GST ex the factory. This includes the shearing plant and stand as well as the non-backup ramp.

BENEFITS OF THE ShearEzy SYSTEM INCLUDE:

- Reduced physical effort and strain from shearing
- Can be more productive than 'on the board' shearing, especially for the novice or average shearer
- Simple blow patterns and effective animal restraints make shearing easy to learn for all shearer levels
- Easy separation of crutchings and lower quality wools
- Other animal husbandry tasks may be carried out as part of the shearing process
- Large sheep and rams may be easily and safely handled without sedation
- Can be mounted and used on or off an optional trailer

More information: A video of the new 2012 ShearEzy can be viewed on the Peak Hill Industries website www.peakhillindustries. com.au For more information, contact Bill Byrne (02) 6869 1700.

Grazing in native pastures

Felicity Cox has completed her PhD study of sheep grazing in native pastures, with the help of a scholarship provided by AWI.

FAST FACTS

- With the help of a scholarship provided by AWI, Felicity Cox has completed her PhD thesis on sheep grazing in native pastures to enable better management of production and natural resource outcomes.
- The study examined the effect of grazing systems on the quality of the diet, grazing behaviour and animal performance.
- The research was undertaken in a series of experiments at the Central Tablelands EverGraze proof site at Panuara, near Orange, NSW.

PhD thesis by AWI scholarship recipient Felicity Cox, with support from the EverGraze proof site near Orange, NSW has helped build up knowledge about what sheep grazing native pastures, within the high rainfall zone of south-eastern Australia, eat and the quality of their diet.

"Producers commonly implement some form of rotational grazing system, but only limited objective information has existed as to the effect of grazing systems on the quality of the diet and grazing behaviour as well as the management of animals," said Ms Cox.

"Unless rotational grazing systems take grazing behaviour and diet selection into account they can depress sheep live weight and body condition score as a result of restricting the animal's ability to select forage and optimally use the landscape. The grazing practices used also affect the sustainability of grasslands."

Ms Cox received a scholarship from AWI for the past three years to assist her in her PhD studies at Charles Sturt University. The studies into grazing native pastures, to better manage production and natural resource outcomes, were undertaken in a series of experiments at the Central Tablelands EverGraze proof site at Panuara, near Orange, NSW, from October 2009 to December 2011.

The studies explored the diet selection of sheep in terms of plant species, plant parts and seasonal variation. This is important in the development of more efficient grazing systems and increased production.

The project also investigated the diet quality of sheep grazing within different management systems (continuous grazing and high-intensity rotational grazing) and the effect on livestock production parameters (live weight, body condition score, wool fibre length and fibre diameter).

Diet quality (metabolisable energy and organic matter digestibility) was determined using chemistry analyses of faecal samples, using calibration equations developed specifically for the native pasture at the site. Additionally, the project investigated the grazing location of animals within a landscape by tracking the animals using GPS collars.

"The experience of being dedicated to

the research and understanding of sheep grazing in native pastures for the past three years of my PhD candidature has been a unique experience, a great privilege and a considerable challenge," Ms Cox says.

"One of the challenges of seeking to understand the diet selection, quality and intake of grazing sheep was the lack of available non-invasive methods. Our development and use of relatively simple, low cost and non-invasive methods has expanded the knowledge of sheep nutrition within the region. This additional knowledge can assist livestock producers to make more objective decisions regarding the management of livestock within grazing systems and native pastures."

Ms Cox determined that ewes consistently selected the green vegetative forage from within a pasture that was of higher quality than the average pasture.

"A possible mechanism underlying the selectivity of grazing animals that was identified is the ratio of green: dead dry matter of a species, where the animals consumed greater quantities of green herbage of a species as the ratio of green: dead dry matter increased. At times the relationship was independent to the pasture species and the quality of the species."

The studies also found that grazing location of ewes within a continuous grazing system was influenced by the landscape together with the presence or absence of particular pasture species.

"Animals preferentially grazed areas

ON-FARM 29

of high productivity within the landscape and the animals displayed a preference for areas dominated by higher quality pasture species such as Microlaena and tended to avoid areas dominated by lower quality pasture species, such as Wallaby grass, Austrostipa and common wheat grass."

As well as acknowledging AWI for providing a scholarship, Ms Cox said her studies involved a collaboration of industry research organisations.

"The plethora of resources, knowledge, assistance, encouragement and wisdom provided by my supervisors Professor David Kemp and Dr Gaye Krebs at Charles Sturt University, and NSW Department of Primary Industries research agronomist Dr Warwick Badgery based at the Orange Agricultural Institute, was invaluable," she said.

Ms Cox's thesis was also funded by the Future Farm Industries CRC and the A W Howard Memorial Foundation.

Ms Cox hopes to continue to work within the wool and other agricultural industries in either a research or extension capacity and in the short term publish and present the major findings of her thesis in scientific journals and conferences.



NSW Department of Primary Industries research agronomist, Dr Warwick Badgery discusses ryegrass pasture with EverGraze Regional Group member and Mandurama farmer, John Rowlands and Felicity Cox during a field day at the Panuara EverGraze site, near Orange.

Adapting to climate variability

FAST FACTS

- The Southern Livestock Adaptation 2030 project seeks to give livestock producers and industry a better understanding of potential futures under a variable climate.
- The project has demonstrated that relatively small temperature and rainfall changes can have big impacts on farm profitability, especially if farms don't adapt to the changes.
- The best adaptation strategies or practices are already known to many producers and are as applicable today as they will be in the future.

nformation generated from the groundbreaking Southern Livestock Adaptation 2030 (SLA 2030) project aims to help livestock (sheep, beef and dairy) producers quantify the potential impacts of a variable climate on production and profitability.

While no one can accurately predict the future, it makes strategic sense for the livestock industry to "peer over the horizon" and examine the "what ifs" of future climate scenarios. Until now, we have not been able to tackle these questions, but the recent SLA 2030 project funded by AWI, Meat & Livestock Australia and the Department of Agriculture, Fisheries and Forestry has enabled us to do that.

The project looked at a range of future climate predictions and considered how changes in temperature, rainfall and CO₂ levels might impact livestock production and farm profitability. The project modelled impacts out to 2030 and beyond. Various management strategies (adaptations) were then modelled, to see what works and what doesn't

AWI Program Manager, Environment, Climate Change and Carbon, Gus Manatsa, says the SLA 2030 project is not about trying to predict the future, but rather about giving producers the information needed to better prepare for longer term uncertainties.

"We are looking to help farmers think about the future, and to become aware that there are tools and people who can help explore that uncertainty, and help prepare for it," Mr Manatsa said.

"For the first time though, we have been able to quantify what impact a changing climate might have at a local and enterprise level, focussing on feed production, the impacts on livestock production and what that might mean for farm profitability. We have not had this information before.

"Using the information generated from the models makes it clearer what the future might hold, and which responses might be more useful. More importantly, the research also shows that some adaptations that may be beneficial in the future are actually worth pursuing today."

Under a range of temperature, rainfall and CO₂ levels, the models predict the likely levels of pasture production at specific locations. Modelling directly involving producers was undertaken in 46 distinct locations (country towns) across southern Australia. A further 43 locations were modelled by the University of Melbourne, CSIRO and the Tasmanian Institute of Agriculture (TIA) to provide some of the underpinning science.

"Farmers will no doubt seek to change management strategies to adjust to altered climatic conditions. So, working directly with farmers, the project also tested changed practices, such as changing lambing time, using summer confinement feeding, genetic improvement," Mr Manatsa added.

SLA 2030 was funded through the Federal Government's Climate Change Research Program, AWI, MLA and Dairy Australia. Partners in the project included CSIRO, the University of Melbourne, TIA plus five state agencies (Victoria DPI. SARDI, NSW DPI, TIA and WADAF) and hundreds of livestock producers across southern Australia.

More information: www.wool.com

KEY FINDINGS

Climate conditions and adaptation strategies will vary across regions

Climate predictions and their impact on production and profit vary across southern Australian locations. While climate scenarios show that grazing systems will still be viable in southern Australia in 2030, they also show that with some adaptation these systems can be more profitable. The most advantageous adaptation strategies vary between regions. A combination will be needed - there is no silver bullet.

Most scenarios suggest higher temperatures and less rainfall

The majority of future climate scenarios suggest that much of southern Australia will potentially have higher temperatures and less rainfall, with higher growth rates in winter and early spring, but the spring growing season will contract, with an earlier onset of the dry summer period (and reduced stocking rates in order to maintain ground cover). For some areas, eg parts of Tasmania and mainland higher rainfall / colder regions, the outcomes could be positive.

Lower stocking rates but increased production

Sustainable stocking rates are set to decline due to lower and more variable pasture growth and longer periods of pasture decay over summer. The lower stocking rates are partly balanced by increases in production per head due

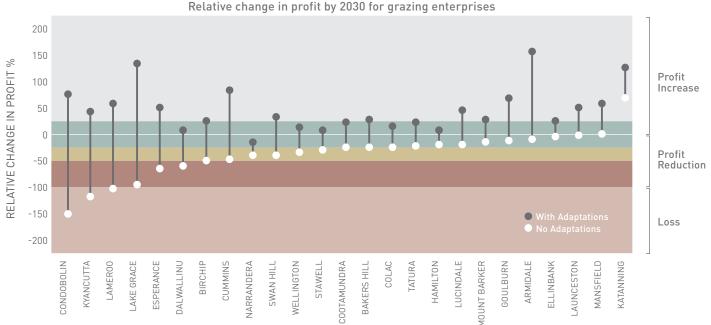
to higher pasture legume content and lower lamb mortality. While sheep may provide a buffer in bad years, there is no indication from any of the models that changing entire enterprises is going to be a fundamentally sensible thing to do in the future.

Drier farming zones will be most affected

There is strong evidence that total annual pasture production in southern Australia is generally resilient to warming of +1°C and 10 per cent less rainfall, but further changes are likely to reduce annual pasture growth. The impact will be greater in 2050 than 2030 and greater again in 2070, with data suggesting that the drier farming zones will be most affected. Changes in rainfall are the single most important driver of impacts on broadacre livestock.

Adaptation strategies

Importantly, the best strategies or practices are already known to many producers and are applicable today and in the future. Increasing soil fertility is the most effective and persistent adaptation option for woolgrowers. Modelling suggests that, with adaptive breeding, current forage species will still be the most suitable into 2050, and there would be no production advantage moving to more tropical species within this timeframe. Heat tolerance traits in pasture plants will become increasingly important. Adding Lucerne to the feedbase and confinement feeding are useful adaptations at some, but not all locations. Genetic improvement gains were found to increase out to 2050 but leveled off at 2070.



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WILD DOG FUNDING

FAST FACTS

- AWI has a broad range of investments in wild dog control, including practical initiatives such as aerial baiting and establishing new producer groups.
- As well as funding the National Wild Dog Facilitator position, AWI is funding coordinators in Queensland, Victoria and South Australia with investigations under way as to how these roles can be extended into other states.
- Wild dog predation can cause woolgrowers and their families profound trauma in addition to the stress of production losses.

32,000 baits are what woolgrowers in the pastoral zone of South Australia and a wild dog population that continues to move further south of the wild dog fence.

"We've got thousands of dogs outside the dog fence and hundreds inside," says South Australian woolgrower and National Wild Dog Advisory Committee Group representative Geoff Power.

"But the aerial baiting program that we have just completed has been massive and appreciated by growers throughout South Australia," Mr Power says.

"AWI funding and support has meant many other aspects of the industry have got on board, including government."

The farmers in South Australia are just some of the 40 groups which have received funding directly from AWI in an "on the ground" response to assist woolgrowers protect their flocks from an increasing wild dog problem.

AWI has a coordinated strategy of investment to tackle predation from wild dogs. In June last year the AWI Board made a commitment of one million dollars to help grower groups buy and deploy baits and access traps and trappers. This was in addition to funds for running trapping workshops as well as funding coordinators for landscape level control.

The investment strategy is focused on putting the decision making of control into growers' hands and backing up the on the ground activities with investments in research to identify the most effective aerial baiting rates, as well as studies into the social, economic and environmental impacts of wild dogs.

Key to helping producers on the ground is the funding of wild dog coordinators, with people already appointed in Queensland, Victoria and South Australia and investigations under way as to how these roles can be extended into other states.

As the name suggests, coordinators work with landholders to raise awareness and ensure wild dog control activities are coordinated across regions and are effective.

Brett Carlsson was recently appointed as the Wild Dog Coordinator in Queensland, a position funded by AWI and AgForce, and says he will be working with producers to make sure they stay in the wool industry.

"Across the board, everyone has been really receptive to having someone on the ground to help," he says. "Coordination is nothing new, it is just people don't have the time or contacts to be able to do it. So in a sense my role is more than just to coordinate, but also to facilitate. For example, I recently held a meeting to try to coordinate aerial baiting campaigns for next year so shires are baiting in sequence, for maximum effect and minimum cost." Wild dogs are estimated to cost the Australian wool industry \$24.2 million a year in lost production, but this figure does not include the social or environmental impacts of dogs on the community.

Head of On-farm RD&E at AWI Dr Jane Littlejohn says the mainstream media view of wild dog impacts is too narrow and simplified.

"Too often reporting on wild dogs considers the lost sheep and dead dogs, but it forgets the impact of these attacks on communities, woolgrowers and their families," Dr Littlejohn says.

"Growers often lay awake at night wondering if dogs are attacking their sheep, which places stress on themselves and the rest of their family."

This is echoed by Mr Power who adds, "wild dog predation is very much an emotive issue; we have had a lot of people in South Australia go out of sheep, not because they wanted to, because they were forced to.

"It doesn't stop when they move from sheep into cattle either; we've seen as people go out of sheep and into cattle the dogs start predating calves, so it is a no win situation while the dogs are about."

More information: www.wool.com/pestanimals



AWI R&D UPDATE PUBLICATIONS

AWI has begun producing new 'AWI R&D update' publications to provide growers with a succinct overview of AWI R&D outcomes to date. The following new AWI R&D updates are currently available:

- Wild Dog Control
- Fox Control
- Rabbit Control.

The AWI R&D updates are available online at www.wool.com or via the AWI Helpline on 1800 070 099.

FAST FACTS

- Feral pig numbers have increased dramatically due to recent wet weather providing the pigs with plenty of feed and water.
- The burgeoning feral pig numbers are costing some woolgrowers heavily through predation of lambs, and damage to pasture and fences.
- Available to woolgrowers is a suite of feral pig control techniques – which can be integrated with feral dog and fox control techniques to form an integrated pest management program.

eral pigs cost the agricultural industry over \$100 million each year. The wool and sheep industries are directly affected, largely via predation of lambs, but also by damage to fences. Furthermore, pigs wallow and foul up water sources, turn over vast areas of soil when rooting for food, and facilitate the spread of weeds. Feral pigs also host serious diseases with the potential to devastate livestock operations.

Sheep graziers from the Macquarie Marshes in northern NSW recently reported their experiences to the Invasive Animals CRC for an information series on feral pigs and feral pig management.

Michael O'Brien said he lost almost 70 per cent of his lambs in 2011 with a potential cost of \$250,000 to \$300,000.

"This year's lambing has turned out to be an utter disaster due to pig devastation in as much as we put 3492 ewes out to lamb in the middle of March and only made 1102 lambs," Mr O'Brien said. "I believe conclusively that most of our losses were due to pigs; there was a tremendous outbreak of pigs following the third reasonably wet summer and following a very wet December/January."

Nearby sheep grazier Simon Earl agreed that feral pigs can have a huge effect on newborn lambs.

"We lose a lot of lambs to the pigs when they get into it," Mr Earl said. "We might lose 30-40 per cent of our lambs to pigs if we didn't do any baiting. At my wife's place once when it was flooding, they poisoned one side of the flood and not the other side and it was 30-40 per cent difference in the lambs."

Another grazier David Thornton told of the pigs' effect on fences.

"They're hard on fencing, especially boundary fences. Pigs, particularly the older ones, make large holes," he said.



Feral pigs can have a devastating effect on lamb marking percentages, but there are control techniques available which can be effective.

PRACTICAL FERAL PIG CONTROL

In Australia, a suite of feral pig control techniques are available. Generally, no single technique will completely remove feral pigs from a given area, so a combination of techniques is usually needed.

Poisoning: Ground-based poison baiting is one of the most economical and effective ways to control feral pigs on a broad scale. Ground baiting can achieve around 70-99 per cent rapid population knockdown across a range of Australian habitats. Products developed by Animal Control Technologies Australia and the Invasive Animals CRC, of which AWI and MLA are integral partners, include PIGOUT® and the HogHopper[™], which can make feral pig baiting safe and target specific. Aerial baiting is also used in some regions of Australia but is typically less effective than ground baiting because feral pigs generally need to become familiar with taking bait first.

Shooting: Intensive ground shooting – both recreational and professional – can be effective in some localised settings where pig numbers are low. Hunting with dogs can make ground shooting campaigns more successful, particularly in dense habitat. Aerial shooting by helicopter is more effective than ground shooting and considered very competitive with other control methods on a cost-perkill basis in the right conditions. Used in a coordinated fashion, aerial culling programs have the potential for largescale and rapid knockdown (64-80 per cent efficiency) of feral pig populations in Australia.

Trapping: Trapping is a valuable method for managing feral pigs at relatively low densities and where control by poisoning or shooting is not feasible, such as near urban areas.

Fencing: Exclusion fencing is a physical, non-lethal way of protecting high-value areas from feral pigs, such as lambing paddocks.

Just like with any other pest animal problem, such as with wild dogs, it is important for landholders to work together to reduce the impact, such as organizing aerial shoots and coordinated baiting programs.

More information:

For further information about feral pig control techniques see the Invasive Animals CRC's website at www.feral.org.au

ON-FARM

34

Value of wool

FAST FACTS

- The price of wool sold at auction varies according to the characteristics of the wool.
- Woolgrowers can avoid discounts and attract increased premiums by producing wool with the characteristics that are valuable to buyers, processors and consumers.
- Fibre diameter is the single most important characteristic of greasy wool, and accounts for over two thirds of the variation in price.

Woolgrowers looking for the latest trends in wool price premiums and discounts will find it in AWI's recent review of AWEX data for all fleece wool auctioned between 2004 and 2011.

The AWI report *The Economic Value of Fleece Wool Attributes* analysed the relationship between clean prices for over 1.7 million lots (1.8 million tonnes) of fleece wool, and a range of characteristics of the raw wool sold from July 2004 to June 2011. Non-fleece wool lots, and wool lots that were passed in, were excluded. This study differs from previous studies by testing a much wider range of factors affecting wool price, including interactions.

AUSTRALIAN WOOL CLIP

In 2011, the wool industry contributed \$A2.3 billion to Australian export earnings, or 8 per cent of the total value of Australian farm exports.

Almost 90 percent of the 350 million kg Australian wool clip is finer than 24.4 microns, with half of the clip finer than 20.4 microns.

The characteristics of wool fibre determine its end use in either the higher quality worsted system or the woollen system. The worsted system can process long Merino and cross-bred wools, while shorter wools and oddments like locks, crutchings and lambs wools are used in the woollen system.

Buyers look for different wool quality characteristics depending on the wool category. This study analysed data for five wool categories (see Table 1).

	CHARACTERISTIC	% SHARE BY		
CATEGORY		WEIGHT	VALUE	
Ultrafine	Less than 16.5 micron	2	3	
Superfine	16.5-18.4 micron	15	20	
Fine	18.5-20.4 micron	32	34	
Medium	20.5-24.4 micron	39	36	
Broad	Higher than 24.4 micron	12	7	

Table 1. Wool categories analysed in the study

The data showed that the diameter of the Australian clip increased very slightly, from consistently between 20 and 21 micron for most of the seven selling seasons, to 21.12 micron in 2010-11 (see Figure 1). Drought across eastern Australia from 2004-05–2006-07, and a small but increasing component of broad non-Merino wool may have contributed to this increase.

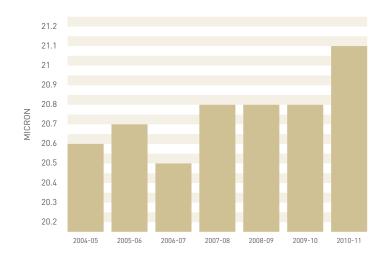
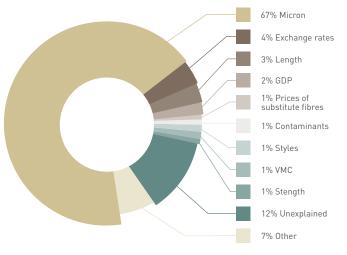


Figure 1: Average fibre diameter by season (whole sample)

MICRON PREMIUMS REMAIN

A number of wool characteristics and external factors contributed to variation in wool prices over the seven years of the sample period (see Figure 2). However, micron remains the major driver of price premiums and discounts, accounting for two-thirds of the variation in price for clean fleece wool.





Micron premiums in the ultrafine and fine wool categories fluctuated over the years. In 2007-08, the premium for ultrafine wool reached a high of 934c/kg. However, the gap between premiums paid for ultrafine and superfine wool narrowed in 2010-11, when the ultrafine premium was 292c/kg clean compared to a superfine premium of 182c/kg clean.

	PREMIUM		
CATEGORY	C/KG CLEAN	% OF CLEAN PRICE	
Ultrafine <16.5 micron	544	30	
Superfine 16.5-18.4 micron	112	10	
Fine 18.5-20.4 micron	103	11	
Medium 20.5-24.4 micron	32	4	
Broad >24.4 micron	31	7	

Table 2: Average premium for a 1 micron decrease in fibre diameter

Premiums for diameter in superfine, medium and broad wools remained steady across the seven selling seasons, in percentage terms.

DISCOUNTS FOR SHORT STAPLE LENGTH

The majority of ultrafine, superfine, fine and medium wool lots were measured for staple length, staple strength and midpoint break. However, only 21 per cent of broad wool lots were measured for length and strength. Large discounts applied to wool lots not measured for length, strength and mid-point break, with wool lots without length measurements attracting the largest price discounts (see Table 3).

Small premiums were paid for staple lengths of 80-120mm for most wool types. However, discounts increased when staple lengths were shorter than 70mm, and could be severe for most wool types below 60mm.

There were premiums for length 80 mm to 120mm even for the ultrafine and superfine wools.

	PREMIUM (-DISCOUNT) RELATIVE TO WOOL 70-80MM (C/KG CLEAN)				
STAPLE LENGTH	ULTRAFINE	SUPERFINE	FINE	MEDIUM	BROAD
	<16.5um	16.5- 18.4um	18.5- 20.4um	20.5- 24.4um	>24.4um
Not measured	-494	-224	-114	-61	-9
20-30mm		-491	-270	-195	
30-40mm	-686	-372	-218	-150	-52
40-50mm	-543	-228	-142	-110	-47
50-60mm	-575	-197	-112	-94	-44
60-70mm	-233	-86	-50	-35	-26
70-80mm	Base case for comparison				
80-90mm	36	10	7	5	9
90-100mm	75	7	4	5	11
100-120mm	42	NS	-6	NS	8
>120mm	NS	-128	-76	-49	15

Table 3: Premiums and discounts for staple length relative to 70-80mm wool

The review also highlighted interactions between midbreak percentage and staple strength. While midbreak percentage attracted discounts when wool was tender, the discounts were minimal when wool was strong.

OTHER INFLUENCES ON WOOL PRICE

Discounts were very small for vegetable matter content below 4 per cent, and decreased during the review period, largely because dry conditions prevailed.

The full report on the study also discusses price variation impacts from:

• Style (1%)

• Exchange rates (4%), GDP in key markets (2%) and prices of substitute fibres (1%)

• Faults excluding vegetable matter (1%)

• Other market variables including sale day and location, mulesing status, fleece preparation type and others (7% combined).

12 per cent of wool price variation over the seven selling periods could not be explained by the categories used in the models (ie shipping deadlines etc).

An awareness of which wool characteristics are valuable to buyers, processors and consumers will help woolgrowers produce wool that better meets the market. Taking a market focus to production is the basis for better management of price risk, selling to advantage, and improved profitability.

AWI products like the *Market Focused Wool Production* module in the Making More From Sheep manual (www.makingmorefromsheep. com.au) provide a background to wool enterprise planning. Links to other modules on managing business and people, pastures and natural resources, and sheep production are designed to make it easier to maximise the characteristics of your wool that are most valuable to your buyers, processors and consumers.

More information: *The Economic Value of Fleece Wool Attributes* **70** page report will be soon on www.wool.com. The report's availability will be advised in AWI's monthly woolgrower e-newsletter. To subscribe, send an email to webmaster@wool.com with "Please subscribe me to the AWI Woolgrowers' Newsletter" in the subject line.

• A new phalaris cultivar Advanced

AT tolerates soils as acid as pH4.2 with higher aluminium levels. AWI funded the CSIRO plant

breeding program for Advanced AT:

says it's a phenomenal perennial grass well suited to the acidic, sandy soils on his property south

commercialisation has been undertaken by Heritage Seeds. Sheep grazier Dugald McLachlan

FAST FACTS

halaris marginal land

Sheep grazier Dugald McLachlan with Advanced AT phalaris on his property in South Australia.

"Phalaris doesn't have that problem. The roots get right down into the subsoil which is why it also handles dry summers

very well. And even with our higher rainfall it doesn't suffer from wet feet. It's just such a versatile grass.

"People say it gets too rank but that's all about grazing management. Phalaris forces you to step up to the plate and get your grazing management right, which is what we should be doing anyway.

control," he says.

"There's also the issue of staggers. But prudent fertiliser use and good grazing management will also keep that under

Advanced AT was bred by the CSIRO's Dr Richard Culvenor during an AWI-funded program. He said it had been bred for stronger seedling vigour and was the most aluminium tolerant phalaris yet developed.

"It certainly has an establishment advantage in strongly acid soils, especially in dry conditions. We were able to show that at pH levels below 4.2 it is the best variety." Commercialisation of Advanced AT

> has been undertaken by Heritage Seeds. Product development manager Richard Prusa says good quantities of seed have been available this year and complete availability should be achieved in 2013.

"Advanced AT is a tall and 'showy' phalaris that produces an abundance of feed early on. You can get good grazing from it a bit

quicker than with the others," he said.

"It's perhaps not quite as tough as some of the older varieties but that's easily managed with careful attention to grazing.

"Because of its tolerance to acid soils and higher aluminium levels, we see an opportunity to use Advanced AT to rehabilitate poorer, underutilised soils." ◀

More information: Tim Pepper, Heritage Seeds 0417 500 911

of Penola in South Australia.

arketers often say that successful products need a champion. If that applies to pasture grasses, then phalaris certainly has one in the form of South Australia's Dugald McLachlan from Nangwarry Station south of Penola.

"Because it grows like a weed we really should be making the most of what is essentially given to us for free. In my view it's the most underutilised pasture in the country," he says.

Phalaris has long been a mainstay on the property with its very acidic (below pH4.0) sand-over-clay duplex soils. Some stands planted back in the 1930s are still productive.

"They're not great but I still have other paddocks more in need of improvement."

While his commitment to phalaris is long-standing, it's been further strengthened by his experience with the new cultivar Advanced AT which he has been 'bulking up' for Heritage Seeds (formerly Seedmark) over the past two years.

"We've been mainly growing it for seed but have used a bit ourselves and it's just a phenomenal grass. We won't be using anything else in future!" he declares.

Mr McLachlan concedes that establishing phalaris can be difficult and this is a barrier for many farmers.

"But Advanced AT has better seedling vigour than other varieties we've used and successful establishment really comes down to management anyway.

"You have to get your soil nutrition right - trace elements and so on - and get on top of weeds. Seed depth shouldn't be any more than 10mm, almost on top.

"And the last thing I would use in low pH country is an acid-based fertiliser. You're better to plant it with nothing," he says.

Acidic soils aren't the only challenge at Nangwarry. Mr McLachlan says the sandy soils are very light and stock simply pull grasses out of the ground unless they are deep-rooted.



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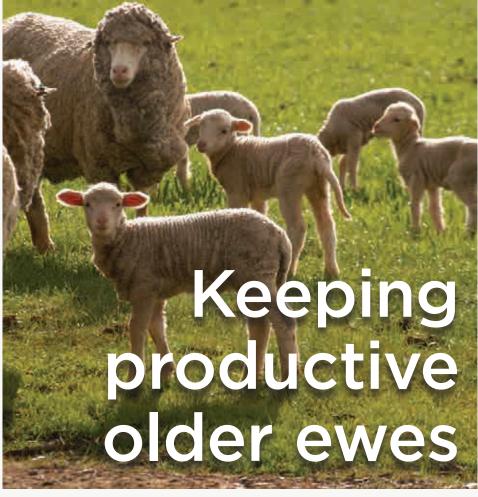
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vaccinate lambs with Gudair[®] (V)





Keeping productive older ewes in the flock for an additional one or two years is a vital strategy to increase reproductive efficiency.

FAST FACTS

- Research funded by AWI indicates that sheep producers could dramatically improve the fertility of their flock by identifying and retaining their most reproductive ewes for one or two extra joinings.
- Older ewe reproduction rate is better than the reproduction rate for maiden ewes until the older ewe is at least seven years of age.
- Environmental factors, such as nutrition, influence reproduction rates more than ewe age.

N ew research has shown, among other findings, some older ewes can outperform their younger rivals well beyond the age at which they are traditionally culled.

The work is out of the NSW Department of Primary Industries (NSW DPI), supported by AWI and the Cooperative Research Centre for Sheep Industry Innovation (Sheep CRC).

The key is identifying these highly

fertile ewes so the poor performers can be culled earlier, regardless of age, and highperforming sheep retained longer.

This lifts the reproductive rate across the whole flock, by proportionately reducing the number of maiden ewes and retaining the high reproductive performance of the older ewes.

This practice would also address the relatively poor reproductive rate of Australia's national flock. The average marking percentage of the Australian flock is just 77 per cent.

Keeping productive older ewes in the flock for an additional one or two years is a vital strategy to increase reproductive efficiency.

Improving the reproductive efficiency of Merino ewes in particular is crucial to the future of the Australian sheep industry, as Merinos now make up 85 per cent of all ewes.

ON-FARM RESEARCH

To try and identify the effect of ewe age on fertility and some of the management issues which may arise if ewes are retained to an older age, a two-year study has been conducted on two commercial sheep properties in the Central West Plains and South West Slopes regions of NSW.

On each property three Merino ewe age groups (3–5 years) were monitored over the annual reproductive cycle, with measurements continued into the second year when six-year-old ewes were retained in the breeding flock.

Liveweights and condition scores were regularly measured, pregnancy rates determined using commercial scanners and lamb survival and dam/offspring pairings recorded using Pedigree Matchmaker.

The research took into account environmental effects on reproduction, and the influence of fat scores. Although fat scores tended to be lower in older ewes, the number of lambs conceived by each ewe increased with age, as shown in Table 1 opposite.

While the oldest ewes in this study to date are six years old, other research on the reproductive performance, mortality rates and the productivity of Merino ewes studied sheep to eight years and found age had little influence on reproductive performance.

In general, the overall ewe reproduction rate is better than for maidens until at least seven years of age.

Environmental factors have a greater influence on net flock reproduction than age, and nutrition is especially influential in young ewes in determining their future reproductive performance.

PERFORMANCE INDICATORS

While reproductive performance is a key component of flock productivity, it is important to look at other traits such as fleece weight and quality when considering whether to retain older ewes in a breeding flock.

Most research, including the recent NSW DPI study, indicates again environmental factors have a significantly greater influence on fleece weight and wool quality than ewe age.

For clean fleece weight, most of the research indicates a decline of up to 20 per cent at eight years of age compared to a peak at three or four years of age, although this was variable between flocks.

In contrast, fibre diameter tends to increase with age to about six years and then declines, but again is variable between flocks.

Both clean fleece weight and fibre diameter are more influenced by pregnancy status and stocking rate than ewe age.

Ewe age also appears to have less impact on the performance of her lamb compared to factors such as whether it was a single or multiple birth and the sex of the lamb.

AGE (YRS)	SOUTH-WEST SLOPES	CENTRAL-WEST PLAINS
3	1.22	1.24
4	1.36	1.42
5	1.40	1.43
6	1.58	1.58

Source: NSW DPI

Table 1: Effects of age on lambs conceived per ewe joined in flocks of Merino ewes on theSouth-West Slopes and Central-West Pains of NSW.

By the time a lamb is a hogget, there is no age-of-dam effect on its liveweight.

OTHER CONSIDERATIONS

Other considerations when retaining older ewes include animal welfare considerations such as ewe mortality. Limited research suggests while ewe mortality naturally increases with age, environmental conditions and pregnancy status will have a greater impact on ewe mortality than age.

This again indicates the importance of nutrition and body condition when managing older ewes.

The condition of a ewe's teeth, udder and feet can significantly impact on her productivity.

Most sheep producers cull sheep based on the wear and loss of their permanent incisors.

But the age incisor teeth are lost varies markedly between individual sheep and between breeds, so consider culling based on a physical inspection of the teeth, udder and feet rather than a blanket cull at a certain age.

WHY DO IT?

While there is no single strategy to deliver a large increase in reproductive performance, a combination of breeding and selection is a worthwhile investment, capable of increasing flock net reproduction rates (NRR) by 15 per cent over 10 years.

A suitable within-flock selection strategy includes culling twice-dry ewes at three years of age, which begins delivering benefits after the second year and the full benefit of a 4 per cent increase in NRR by year five.

Producers can make use of pregnancy scanning information to identify the double dries, and can wet and dry ewes at marking to identify those which have reared at least one lamb.

Retaining the top 50 per cent performing ewes in a flock to six and seven years of age also leads to a 4 per cent increase in NRR after five years, increasing to 7 per cent after 10 years.

To fast-track performance, select rams which have positive reproduction rates, represented by number of lambs weaned (NLW) in Australian Sheep Breeding Values (ASBVs).

The genetic benefit of these rams begins two years after their first daughters are born and kept as replacement ewes. The ram genetic improvement alone will account for 4 per cent of the increase in NRR over 10 years, but the ram/ewe genetic improvement produces about a 4 per cent NRR increase annually.

BENEFITS

The potential flock reproduction rate gains over 10 years from a combination of strategies are shown in Figure 1.

These strategies include culling poor performing, young ewes ('ewe culling), retaining productive ewes for an extra one or two years ('lifetime selection'), using rams with positive NLW ASBV figures ('ram genetics') and the subsequent improvement in replacement ewe genetics ('ewe genetics'). The flow-on benefits from the reproductive improvement and altered flock age structure include more, higher-value surplus hoggets and fewer surplus old animals for sale, fewer maiden replacements required and higher selection intensities possible on wool traits.

WORKSHOP DEVELOPMENT

From the NSW DPI and Sheep CRC research, a national extension package has been developed in the form of a workshop titled Identifying and keeping productive older ewes in the flock.

Co-funded by NSW DPI and AWI, the workshop provides sheep producers with a step-by-step guide to identify, select and manage productive older ewes to improve reproductive performance.

The workshop and manual covers five main components, including flock characteristics and age structure, the relationship between ewe age and productivity, identifying productive older ewes, managing productive older ewes and an economic evaluation of the effects of flock structure changes.

It is hoped producers will be able to attend these workshops from the second half of 2012 onwards.

Acknowledgments

Kondinin; Greg Lee, Maryann Sladek, Sue Hatcher and Trudie Atkinson, NSW DPI.

More information:

Sue Hatcher, NSW DPI, (02) 6391 3861, sue.hatcher@dpi.nsw.gov.au.

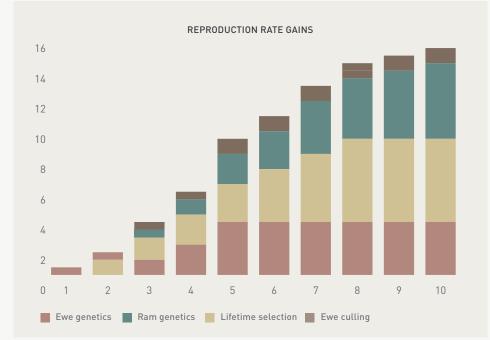


Figure 1: Potential responses in reproduction rate over 10 years

Select twin bearing

FAST FACTS

- The AWI-supported Bestprac program has released a case study of northern NSW woolgrower John Hickson who uses pregnancy scanning to select ewes that bear and rear twins.
- In a good year Mr Hickson marks 130 per cent lambs in adult ewes and in an ordinary year, 105 per cent.
- As well as scanning, he has a focus on nutrition, condition score and combating predation to lift lambing percentages.

G oondiwindi vet Dr Mike Rival sees many Merino woolgrowers fail to maximise the number of lambs on the ground through a lack of attention to ewe selection and nutrition.

The old adage of breeders to breed 'one good lamb' is faulty, Dr Rival says.

If 10 per cent of ewes in a flock are dry that leaves 90 per cent to lamb, and when you factor in the average loss of 10-15 per cent of ewes failing to rear all lambs, the woolgrower is left with a 70 per cent lambing.

NSW woolgrower John Hickson has carried on the work of his father Darvall, at the 20,000 acre 'Eural' property at Boomi near the Queensland border, in selecting ewes that bear and rear twins.

In a good year he marks 130 per cent lambs in adult ewes and in an ordinary year, 105 per cent. In his country in northern NSW, the easy part is getting ewes to conceive lots of lambs. The hard part is getting them to rear those lambs.

Mr Hickson says with good management it's possible to raise 80 per cent of lambs in a twin bearing flock, but with poor nutritional management this can easily drop to only 50 per cent survival of twin born lambs. When over 50 per cent of ewes conceive twins in his flock, this is the difference between a good and an average lambing.

And he's found that the family's 40 years of selecting for fertility and rearing ability has had an unexpected spin-off – improved mothering ability in Merino ewes.



THE CHALLENGE

According to Dr Rival, the key challenges to lifting lambing percentages are:

• the condition of ewes at joining and lambing

- predators such as foxes and pigs
- seasonal conditions at lambing time
- labour costs that may prohibit

pregnancy testing

• selecting the optimal time for joining, to ensure either maximal lambs born or at the best time, with respect to predicted feed reserves.

John Hickson says knowing the pregnancy status of ewes:

• makes stocking decisions easier dry ewes are sold and he knows what feed will be needed at lambing

• ensures reasonable birth weights, since twin bearing ewes are split off and fed well

• improves the economics of wool growing, since high culling rates for non-twin bearing sheep means more young sheep for sale, or they can be joined to meat sheep rams for prime lamb production.

RESULTS

The selection for twins at Eural begins after joining. In June a contractor runs the Hickson's 2200 ewes through a VE machine to scan for pregnancies.

Maiden ewes are no longer tested as their twinning rate is usually as low as 20 per cent.

John Hickson says the low protein feed in their summer rain environment doesn't allow the young sheep to be in good enough condition at their first joining. He believes targeted supplementation of the maiden ewes prior to joining could be very worthwhile.

Nutrition is also the key to ensuring that pregnancies translate into live lambs, particularly in the final trimester to ensure reasonable birth weights.

Twin bearing ewes need to be above a condition score of 3.2 to maximize lamb survival. For single bearing ewes 2.5 is probably enough, he says.

However, condition scores at lambing of above 4 for single bearing ewes actually leads to lower lamb survival due to dystocia or birthing difficulties from lambs that are too big.

ewes for more lambs

So while it is very beneficial to put twin lambing ewes on the best feed available and have them in the best condition possible, it can actually be slightly detrimental to have single bearing ewes in too good condition.

After scanning, twin bearing mothers go on to the best feed on the property – native medic, lucerne or grazing oats, depending on what is available that year.

If grass supply is limited, decisions are constantly made to adjust the stocking rate to match carrying capacity, and certain classes of stock are sold. Often the Hicksons find it is not feed quantity that is the problem, but quality.

In those years, twin bearing ewes are supplemented with faba beans or grazed on the worst corners of grain crops to provide them with the massive amount of energy required to have and rear twins.

Mr Hickson says being able to anticipate lamb numbers and match stocking rates with feed has been proven to have many benefits.

In the severe drought year of 2007, the Hicksons, who normally run up to 15,000 DSE, had sold all their livestock except for 1700 of their core breeding ewes. These were sent to a nearby irrigator to put on his failed wheat crop.

The result was 2300 lambs on the ground in good condition and a very small supplementary feeding bill. And the core breeding nucleus of Merino sheep was very much intact.

Preferential feeding of twin bearing ewes during gestation can also largely overcome another challenge – the fact that twin born lambs, due to lower secondary follicle density, have lower fleece weights and higher fibre diameters than single born lambs.

In the past year, following information from the Lifetime Ewe Management program offered by Rural Industries Skill Training (RIST) and supported by AWI, the Hicksons have begun to concentrate on condition scores at weaning, joining, scanning and just prior to lambing, to ensure that ewes are in optimal condition to conceive and rear a lamb.

Mr Hickson says if twin bearing ewes have a condition score of 3.5 to 4 at lambing, lambs are usually strong enough to withstand the vagaries of weather and predators.

Last year helicopter contractors shot

480 pigs on Eural, with numbers boosted by good rains in the past two years.

Foxes can be a problem and baiting is undertaken at times especially around the areas where twin bearing ewes are due to lamb. However, if the nutrition is right and lamb birth weights are up, foxes are less of a problem as the stronger lambs are more viable.

In pastoral zones where flocks are larger, around 5000 ewes, Mr Hickson suggests scanning ewes on their second lambing and drafting off those with twins, to be given the best feed or supplemented in a hard season.

These could be treated as twinning ewes for the rest of their life, meaning pastoralists only have to scan 20 per cent of their ewes each year.

He cautions that this strategy will only work if the nutrition of the twinning mob is got right, otherwise after a tough year, the ewes will be less likely to conceive twins again as their condition score will be down from raising the previous lambs.

He recommends scanning as the place to start investigating a flock's reproduction rate. By scanning, producers can find out whether getting their ewes in lamb is the problem or whether lamb survival is the problem. Once that's clear, the producer can investigate ways to overcome the problem. It is no good conceiving more lambs if lamb loss either through predation or ewe nutrition is the problem, he says. Equally, having ewe nutrition and predation spot on can only improve things so much if the ewes are not conceiving enough lambs.

ON-FARM

Dr Mike Rival says it's difficult to get hard data on the repeatability of multiple births because it's often skewed by seasonal conditions, but warns that it could be as low as 50 per cent.

He suggests that pastoral producers in South Australia or NSW who join in November may experience lower fecundity (number of lambs born) than a similar mob structure joined in Autumn in Queensland.

Dr Rival pregnancy tests up to 50,000 ewes a year in the eastern states and agrees with Mr Hickson that the focus should be on nutrition, scanning and condition score.

He believes the Hickson system is simple and effective:

 Scan maidens for pregnancy and cull ewes not in lamb - at least during the initial or early years.

Continued overleaf...



Dr Mike Rival pregnancy scanning ewes at 'Eural', NSW.

 Identify ewes born as twins with, say, the low ear tag numbers for each drop. In times when extra sheep need to be sold, these might be retained in preference to single born ewes.

Dr Rival says maintaining ewe condition is essential for successful conception and for the laying down of secondary wool fibres in the skin of the lamb foetus, which occurs 30 to 40 days before lambing.

He says a lack of ready labour and the cost of around \$1.00/head can discourage

woolgrowers from pregnancy testing, but current operators are capable of processing more than 2200 sheep in a day.

While it's not easy, a shift in lambing times to ensure ewes drop onto good feed and in warmer conditions makes lamb deaths from predation and/or exposure less likely.

More information:

View the full case study and video on the Bestprac website at www.bestprac.info



Dr Mike Rival pregnancy scanning ewes at 'Eural', NSW.

WHAT YOU CAN DO

- Ensure your ewes have a condition score 3.5 at joining and try to maintain that weight through pregnancy.
- Scan for multiple births two months after joining and split flocks to enable preferential feeding for twin bearing ewes.
- Reduce predator competition by shooting or selectively baiting for pigs and foxes in sheep paddocks just prior to lambing.
- Consider lambing when seasonal conditions are warmer and there is a greater likelihood of good feed for ewes and new lambs.

ABOUT BESTPRAC

Bestprac is a program that provides support and coaches pastoral wool, sheep meat and cattle producers to improve their business and production performance.

Typically Bestprac groups participate in a combination of workshops, field days, research trials or study tours. But Bestprac is "more than just group meetings"; it is about networking, social support and motivation in an often harsh and isolating environment.

The specific Bestprac approach has empowered groups and individuals to innovate, remain in the industry and contribute to their communities. Bestprac groups operate in Western Australia, South Australia, New South Wales and Queensland. The Bestprac program has a website at www.bestprac.info. It provides project overviews, group profiles, latest news and best management practice tools. Visit the website to register as a user and receive the free monthly e-newsletter, which includes a variety of articles from across Australia.

The Bestprac network is supported by AWI.

AWI STATE NETWORKS

AWI state networks provide opportunities for woolgrowers and producers to make changes to their production and management practices. To learn more about how you can get involved, call the coordinator in your state/region:

GROWER NETWORK GROUP	COORDINATOR	PHONE	EMAIL
Sheep Connect NSW	Shelly Anderson	(02) 6391 3954	sheep.connect@industry.nsw.gov.au
BESTWOOL/BESTLAMB (Vic)	Lyndon Kubeil	(03) 5761 1649	lyndon.kubeil@dpi.vic.gov.au
The Sheep's Back (WA)	Andrew Ritchie	(08) 9736 1055	andrewr@hallandco.com.au
Sheep Connect SA	Ian McFarland	(08) 8226 0428	ian.mcfarland@sa.gov.au
Leading Sheep (Qld)	Tony Hamilton	(07) 4688 1270	anthony.hamilton@deedi.qld.gov.au
Sheep Connect TAS	Cat Nicholls	0427 571 199	cat.hot.tin.roof@bigpond.com
Bestprac (Pastoral)	Carlyn Sherriff	(08) 8842 1103	csherriff@ruraldirections.com

Readers' photos!

Have you got any interesting photos that you'd like to share with other readers of *Beyond the Bale*?

We are always keen to see and hear what people working with Australian wool are up to. If you want to share any photos with us, please email the image and a brief description to the editor of *Beyond the Bale* Richard Smith at richard.smith@wool.com. The photos could portray any feature, be it humourous or poignant, informative or provoking, gritty or beautiful.

We can't promise that we'll print every photo, but we'd love to see them. Here are a few that we have recently received from readers.

1. "WAITING TO BE CRUTCHED"

Andrew Hughes from 'Autumnvale' near Thargomindah in south-west Queensland recently picked up the first prize in the "Australian Year of the Farmer" photo competition for this photo. Andrew is on the south west region committee of AWI's Leading Sheep extension network and attended AWI's Breeding Leadership Course in February.

2. "MATILDA IN THE WOOL"

Jed and Nicole Keller from 'Ramsgate', near Tintinara in the south-east of South Australia took this photo of their daughter Matilda sleeping comfortably in their wool.

3. "FOX PREDATION"

This photo was taken last month by Casey McCallum on his mobile phone in the pastoral area of South Australia. Casey was gutting roos when the foxes moved in. In the actual photo you can count about 30 foxes, but Casey estimates there were at least 70 in the near vicinity.

4. "MERINO - THE PERFORMANCE FIBRE!"

Chairman of wool exporters Michell Wool, David Michell, testing his company's I/O Merino base layer range of apparel during the 100km 'North Face 100' endurance race held in May in the Blue Mountains of NSW. David and his team performed well by finishing under 23 hours, and David said the Merino performed well too!











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* AVCARE Data MAT Dec 2011.

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