

Beyond the bale

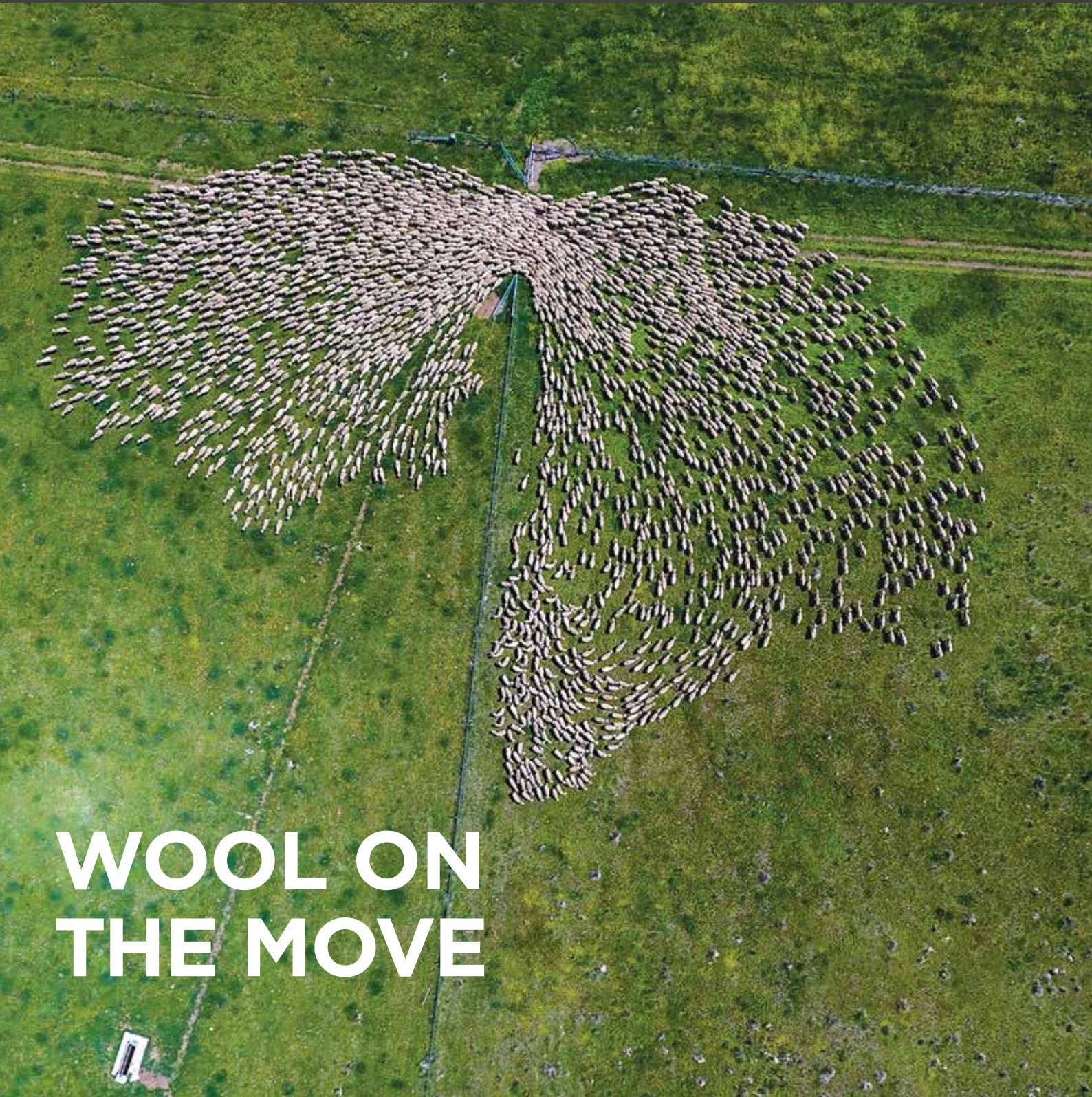
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PROFIT FROM WOOL INNOVATION

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THE
WOOLMARK
COMPANY



WOOL ON THE MOVE



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BAGGY GREEN**



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WITH WOOL**



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**COMMUNITY
WILD DOG CONTROL**

Beyond thebale

EDITOR

Richard Smith
E richard.smith@wool.com

CONTRIBUTING WRITER

Lisa Griplas
E lisa.griplas@wool.com

Australian Wool Innovation Limited

A L6, 68 Harrington St, The Rocks,
Sydney NSW 2000
GPO Box 4177, Sydney NSW 2001
P 02 8295 3100
E info@wool.com W wool.com
AWI Helpline 1800 070 099

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Beyond the Bale is available free.
To subscribe contact AWI
P 02 8295 3100 E info@wool.com

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Steve Luxford, Pulse Hub Pty Ltd
P 0429 699 553
E steve.luxford@pulsehub.com.au
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FRONT COVER

Pictured is a bird's eye view of a mob of sheep being moved as part of a rotational grazing system at Charlie and Anne Maslin's property at 'Gunningrah' in the NSW Southern Tablelands. To manage the significant annual variations in rainfall at Gunningrah, the Maslins' focus has been to look after the land, evaluate what it has to offer and then attempt to stock it accordingly. As well as introducing rotational grazing, they have been lifting and maintaining ground cover and improving the water cycle of the country so when it rains there is very little run off. See page 32 to read more.



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- Sheep Production
- Woolgrower Services
- Processing Innovation & Education Extension
- Business Services

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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.



Stuart McCullough
Chief Executive Officer
Australian Wool Innovation

POSITIVE PRICES CONTINUE DURING 2019

Last year was a very positive year for wool prices, due to improved demand, with the EMI reaching above the \$20 mark for the very first time. There was a short-term dip in the EMI in mid-November to 1786c, but prices have largely recovered, with the EMI at 2027c at time of writing. At AWI we all hope that these high prices continue.

REGISTER NOW FOR WOOLQ

The final piece of WoolQ functionality, WoolQ Market will be released very soon, completing the suite of tools on the platform. The WoolQ Market will be a centralised, online marketplace for Australian wool. The two-tiered platform provides both a bulletin board of buying and selling interest accessible on a 24/7 basis as well as an efficient and easy to use online auction. WoolQ Market will serve as a complement to the current Open Cry auction markets. To use WoolQ's current functionality and to ensure you are kept informed of developments, ensure you register at www.woolq.com.

WILD DOG COORDINATORS

AWI recently began co-funding a wild dog coordinator in South Australia, Marty Bower, and a coordinator in central-west Queensland, Kristy Waddell, to help landholders and communities work together to combat wild dog attacks. AWI-funded wild dog coordinators are now operating in all Australia's mainland states. The contact details of all the AWI-funded wild dog coordinators are available at www.wool.com/wilddogs.

FREE WOOLMARK BALE STENCIL

As you might have read about recently, AWI and The Woolmark Company are offering Australian woolgrowers a **free** stencil of the Woolmark logo to use on their wool bales, to identify and brand their wool fibre as being proudly grown in Australia. We have had a good response from woolgrowers across Australia. If you haven't already applied for a stencil, I encourage you to head to www.wool.com/stencil today and fill out the application online.

ROBOTIC ADVISORY GROUP MEMBERSHIP

AWI is investing in robotics development to optimise wool harvesting for safety, welfare, clip quality and cost competitiveness. AWI now seeks expressions of interest from woolgrowers to join its Robotic Advisory Group to assist the development of its investment portfolio. AWI's robotic shearing scoping study report is available at www.wool.com/robotics. Selection criteria includes a good understanding of the shearing process, challenges and opportunities, skills in entrepreneurship or engineering and the ability to think critically and strategically. Contact joshua.manzie@wool.com by 31st April to receive the selection criteria and instructions on how to submit your interest.

DROUGHT INFORMATION

I continue to be deeply concerned about the effect that the enduring drought conditions are having on woolgrowers. AWI provides on its website at www.wool.com/droughtresources a range of drought planning and management publications, webinar recordings and other resources for woolgrowers going into, enduring or recovering from drought. We also provide links to useful external resources and government agencies that provide drought assistance. Of note is the new FarmHub website, developed by the National Farmers' Federation and funded by the Australian Government, available at www.farmhub.org.au.

HIGH PERFORMANCE JACKET OFFER

Many woolgrowers have taken up the opportunity to purchase the Woolmark Optim WR jacket, at cost price (\$185) since its launch in December. The jacket is made from a 100% Merino wool fabric that is resistant to water and wind, while retaining all of Merino wool's fine properties, such as breathability. We produced the Woolmark-branded jacket to enable woolgrowers to experience the benefits of Merino wool in this innovative way. You can purchase the jacket online at www.wool.com/store.

AWI GRADUATE PROGRAM

Applications for the next intake of AWI's 18-month Graduate Training program (starting in March 2020) open on 1st April and close on 30th April 2019. To apply, go to www.wool.com/careers or apply through Seek or LinkedIn from 1st April. The program is aimed at graduates from a broad cross section of disciplines who have a background in or connection with the Australian wool industry.

AWI PODCAST FOR WOOLGROWERS

AWI's free podcast, The Yarn, which was launched 2½ years ago, has gone from strength to strength with about 75 episodes released and a growing audience of Australian woolgrowers listening in on their smartphone or computer. Recent episodes have included an outlook for the wool market and an interview with Merino consultant Craig Wilson. All episodes of The Yarn are available at www.wool.com/podcast. I recommend that you take a listen.

ENCOURAGING EMERGING DESIGNERS TO USE WOOL

I have recently returned from the finals of the International Woolmark Prize, which was held this year in the key market of London. The interest in these awards from fashion communities and media globally continues to be phenomenal which is important to help increase the global demand for Australian wool. But the International Woolmark Prize isn't just about a competition. It's also about educating the participating designers – there have been nearly 500 since the initiative was relaunched in 2012 – about the qualities and benefits of wool so they'll keep on using the fibre throughout their careers. This theme runs through many of our initiatives with students – from Wool4School to sponsorships for Australian tertiary fashion and textiles students. Read about these and other similar initiatives in this edition of *Beyond the Bale*.

WOOLGROWERS PLACE THEIR FIBRE IN A CENTURY OF BAGGY GREENS

AWI's Flock to Baggy Green was a unique project that combined the Australian wool industry through AWI's marketing arm The Woolmark Company, Cricket Australia and Kookaburra to create special baggy green cloth made from wool donated from right across Australia.

The generosity of hundreds of woolgrowers has stamped the wool industry's legacy on the future of Australian cricket.

For the next 100 years at least, every new Australian test cricketer will be receiving a baggy green cap made of wool from AWI's Flock to Baggy Green project.

Responding to the call for donations, 450 woolgrowers from across Australia sent in samples of their wool to be collated together, resulting in about 500 kilograms of raw wool that has now been made into 350 kilograms of baggy green cloth.

To mark the occasion, AWI Chairman Colette Garnsey OAM handed a sample of the cloth to Cricket Australia Chairman Earl Eddings on the ground during the Adelaide Test Match on 6 December as part of the formal event proceedings of the tea interval. More than 100 woolgrower donors attended the game for the handover.

Mr Eddings said the project will continue to build the meaning of the baggy green cap for Australian cricketers.

"Australian cricket is shared and loved across Australia. Likewise, the Australian wool industry has played a pivotal part in the Australian way of life, so to combine the two gives the baggy green cap fantastic meaning for future Australian Test cricketers," Mr Eddings said.

"Our future Test cricketers can wear their caps with pride, knowing woolgrowers from around the country have contributed to its creation."

AWI's General Manager Woolgrower Engagement Marius Cuming who ran the project said the work with Cricket Australia was part of AWI's commitment to its fibre advocacy program.

"At AWI our role is to increase the long-term profitability of Australian woolgrowers and to advocate for the natural fibre domestically and internationally.

"The Flock to Baggy Green project has created a legacy from the woolgrowers of Australia to Australian cricket, adding to the history and provenance of one of our nation's most significant sporting icons."

Donors have all received a sample of the cloth they helped create, a certificate of thanks and a copy of *From Flock to Baggy Green*, a book commissioned by AWI for the project and written by Australia's best cricket writer, Gideon Haigh.

The **Flock to Baggy green website** enabled woolgrowers who donated to the project to showcase their enterprise and the provenance of Australian wool.

You can hear Gideon speak about his book and the importance of wool to cricket on episode 72 of AWI's The Yarn podcast available at www.wool.com/podcast.

The book is free to download from the website www.flocktobaggygreen.com.au where all donors to the project have been located on a map of Australia.



Donors have all received a sample of the cloth they helped create, a certificate of thanks and a copy of *From Flock to Baggy Green*, a book commissioned by AWI for the project and written by Australia's best cricket writer, **Gideon Haigh**. The book is free to download from www.flocktobaggygreen.com.au



AWI Chairman **Colette Garnsey** OAM hands Cricket Australia Chairman **Earl Eddings** the next era of baggy green cloth at the Adelaide Oval in December.

HISTORY OF THE BAGGY GREEN

The baggy green cap, made from 100 per cent Australian wool, is worn by Australian Test cricketers and is seen as the highest honour a player can receive.

Australian cricketers first started wearing what became known as the baggy green in 1899, when captained by Joe Darling: a tough middle order batsman, woolgrower and pastoralist from South Australia.

With cricket being one of Australia's largest participation sports, clubs across the country have long formed a vital part of the fabric of rural communities, with sheep stations many years ago having their own cricket teams and many cricketing heroes past and present having had connections to the wool industry.

The Australian Cricket Coat of Arms, created before Australia officially existed, features a sheep, which shows the wool industry's prominence in the Australian community when the team first formed.

THANK YOU TO THE DONORS

From massive outback stations, to family farms in all states, to retired farmers with a few sheep, woolgrowers from every woolgrowing region rallied to put their fibre into the Flock to Baggy Green project.

The love woolgrowers have for the game of cricket was reflected not only in the number of those who donated but the quality of wool.

Donations included prize-winning fleeces, wool from prize-winning rams, an entire bale of superfine wool donated by South Australian woolgrower Grant Burge, and those who didn't have wool on hand chose to sweep the woolshed for a few staples to send in long after shearing had finished.

One of the more high-profile donors were Australian cricketer Mitchell Starc's grandparents Betty and Frank Atkinson from Narromine in NSW.

A young Mitch often worked in the

woolshed on a broom at shearing time. The shed has the date his great uncle was found alive at Changi POW camp written in branding fluid above the shearing board; news came that he was found alive while the family was shearing in 1945.

AWI is very grateful to all woolgrowers who chose to be part of this historic and unique project that has created such a legacy for the industry. **B**

MORE INFORMATION

www.flocktobaggygreen.com.au

Australian international cricketer **Mitchell Starc** and woolgrower **Grant Burge** with a sample of the baggy green cloth, a ram and fleece at the Adelaide Oval. *PHOTO* Sarah Reed / Newspix



NAGNATA

BREATHES EASY

NAGNATA. The name is derived from the Sanskrit word 'nagnatA', which translates as nakedness – this relates to the practice of yoga as a pathway to a more authentic and *natural* state of being. And nothing could be more *natural* than Australian Merino wool.

Premium fashion and lifestyle brand NAGNATA forms part of a new generation that embraces social responsibility and challenges the rampant consumerism of fast fashion and its devastating effect on the environment.

The brand was founded by Australian fashion designer Laura May who was later joined in the enterprise by her sister Hannah. With sustainability and artisan projects front of mind, NAGNATA is focused on using only premium natural fibres.

"Our customers appreciate style and invests in quality pieces that offer versatility, longevity and sustainability," Laura said.

Last year the design duo set out to create the brand's most eco-friendly collection to date, partnering with AWI's marketing subsidiary

The Woolmark Company to develop an original seamless knitwear collection incorporating Australian Merino wool.

The new collection is designed for hot yoga, pilates, cycling, dance and cardio exercise. It blends superfine Australian Merino wool with Tencel for breathability and an extremely soft hand feel.

"Our aim was to develop an innovative performance wool seamless knit fabrication that wasn't already on the market and which could provide a super soft second-skin using the highest possible content of natural fibres," Laura explained.

"By blending Merino wool with Tencel – as opposed to with high contents of synthetics usually required for compression and stability in the knitting process – we were able to maximise the natural performance properties of wool: breathability, odour resistance, elasticity and moisture and temperature regulation.

"We wanted to work with Merino wool initially for sustainability reasons, as wool is a natural, biodegradable and renewable fibre. Merino wool is also one of the world's most technically advanced fibres and works in total harmony with the wearer's body."

By working closely alongside The Woolmark Company's technical team, the duo behind NAGNATA was connected with leading wool



Australian label NAGNATA has created a **seamless knitwear collection** using Australian Merino wool, which is **ideal for yoga** and other similar exercise.

mills to explore various knitting machines and spinners, before finally choosing who they wished to work with.

"It's really important to us to have a close relationship with our manufacturers and we like to be involved in the process every step of the way. This also allowed for us to learn so much about the versatility of Merino wool.

"The potential for innovation with Merino wool is endless and we already have multiple other fabrications and products in development because there is so much you can do outside of the expected woolly warm knitwear or traditional suiting." **B**

MORE INFORMATION

www.nagnata.com

www.woolmark.com/nagnata



French alpine brand Fusalp has created a series of sweaters perfect for any après skier, choosing Australian Merino wool for its natural breathability and next-to-skin comfort.

SKI JUMPERS ADDICTED TO WOOL

Born in the French Alps, skiwear brand Fusalp revolutionised skiwear in the early-1950s when it launched the first technical 'fuseau' ski stirrup pants, changing the way skiers dressed when hitting the slopes. Adopted by ski champions such as Jean-Claude Killy in the 1960s, Fusalp's unique silhouettes combine French elegance with a sport-chic and slender cut, for off as well as on the slopes.

Now, in a move to further enhance the brand's dedication to quality, Fusalp has partnered with AWI's marketing subsidiary

The Woolmark Company to unveil a series of 100% Australian Merino wool sweaters for the current northern hemisphere winter.

Titled 'Wool Addict', the collection stays true to Fusalp's DNA, celebrating the art of movement and style knitted together with performance and comfort. Using superfine Italian-spun yarn, the series of sweaters have gained the iconic Woolmark certification.

Ski and après skiwear hold a special connection with Merino wool, and one which will be forever

connected by the fibre's most well-known benefit: warmth. The original performance fibre, Merino wool is renowned for its superb breathability and next-to-skin comfort.

Fusalp has nearly 50 stores located across Europe, the USA and Asia. The 'Wool Addict' range is available to purchase (worldwide shipping) from www.fusalp.com

MORE INFORMATION

www.fusalp.com
www.woolmark.com/fusalp



The crew neck **ADDICT** sweater features clean colour-block design that is a nod to the heritage codes of Fusalp. It is available in dark blue and sepia grey.



The **SKIING** cardigan is an updated version of the classic Fusalp sweater and is also available in dark blue and sepia grey.



The **WENGEN III** sweater and its zipped version **WENGEN FIZZ II** are two iconic clean-lined Fusalp styles that feature the red, white and blue heritage piping of the brand. They are both available in dark blue, light grey and beige.

WINTER RUNNING GEAR WINS WITH WOOL



US running apparel brand Tracksmith has this year included Australian Merino wool in its No Days Off collection of winter running apparel, thanks to a collaboration with AWI.

In the New England region of the USA – and many other parts of the northern hemisphere – there’s perhaps no greater test of a runner’s will than getting outside and training in the bleak, dark depths of January and February.

It’s because of the cold – each day it reveals itself anew. Today, it could be a breath appearing in mid-air. A frosted face. Chapped lips. Sometimes it’s a whipping wind, biting and bracing. Pushing and pulling, making you question every step. It can burn your lungs and nip at your ears. Occasionally, it freezes tears on your cheeks as you wipe a dripping nose. Often it’s a feeling, deep in your bones before you even emerge from bed...

Since 2014, Boston-based running apparel brand Tracksmith has celebrated the grind of winter training with its annual No Days

Off campaign – and for its 2019 campaign, the brand has turned to the original performance fibre, Australian Merino wool, to give their customers the natural edge.

This year, Tracksmith partnered with AWI’s marketing arm The Woolmark Company to create its No Days Off capsule collection featuring winter running apparel products made from Australian Merino wool – and together they put the collection through its paces at a snowy training camp in Craftsbury, Vermont as part of the campaign.

“No Days Off is a call to action: a daily reminder to do something to improve yourself as a runner,” explained Tracksmith founder and CEO Matt Taylor.

“Our collections have always included Merino wool pieces because of its versatility in tough conditions, and this year, we’ve expanded the use of Australian Merino wool throughout the No Days Off line. These are pieces you can wear day in and day out, thanks to Merino wool’s ability to dry quickly and resist odours. It’s No Days Off in both spirit and function.”

The Merino-driven collection includes everything a runner needs to get out of

The 2019 No Days Off **collection of winter running apparel** by Boston-based brand Tracksmith is made from Australian Merino wool, a natural fibre with superior performance attributes.

the door in winter: a jacket, vest, running pant, waffle base-layer, turtleneck, mittens, socks and a cap – for men and women. The collection complements some of Tracksmith’s best-selling Merino wool pieces including the Harrier Long Sleeve, Downeaster top, Fynnsen Crewneck and Freya Hoodie.

“As the sports and outdoor industry continues to grow, AWI sees huge potential for Australian Merino wool in this market and continues to invest in it,” AWI CEO Stuart McCullough said.

A technical fibre, Merino wool is temperature regulating, moisture-wicking and has the ability to dry quickly while resisting odours, allowing athletes to run in these pieces every day.

In the sub-zero conditions at the training camp in Vermont, the runners certainly embraced the chilly workouts thanks to the thermal properties of the Merino pieces in Tracksmith’s collection – check out the images on the Tracksmith website (at <http://ndo19.tracksmith.com>) as proof! **B**

MORE INFORMATION

www.tracksmith.com/collections/no-days-off
www.woolmark.com/tracksmith

A SELECTION FROM THE TRACKSMITH NO DAYS OFF COLLECTION

NO DAYS OFF JACKET

A cold-weather running jacket featuring a layer of bonded Merino wool for insulation and a stretch knit shell for protection from the elements.



NO DAYS OFF VEST

A running vest that insulates and dries quickly, while keeping out the wind thanks to an innovative combination of Schoeller fabrics and Merino wool.



NO DAYS OFF WAFFLE LAYER

The waffle pattern on this Merino base-layer creates small pockets where warm air is trapped against the skin to increase insulation.



NO DAYS OFF MITTENS

Two-in-one: a weather-resistant mitten lined in Merino wool with an internal and reversible nylon-elastane mitten, for double the warmth and functionality in the cold.



The APL TechLoom Breeze Merino Wool is the first technical-knit shoe to gain certification from The Woolmark Company.

APL LAUNCHES WOOLMARK-CERTIFIED FOOTWEAR

Leading brands continue to extend the use of wool into footwear – the latest being California-based Athletic Propulsion Labs (APL) which has used technical Merino wool yarns to create a shoe suited to a range of sports and lifestyle activities.

Elite athletic footwear brand APL was founded in March 2009, by then 23 year-old identical twins Adam and Ryan Goldston. As two former sport collegiate athletes, playing both basketball and football at the University of Southern California, Adam and Ryan envisioned creating a company providing revolutionary products with the ultimate design and performance.

With the launch of their inaugural shoe in June 2010, the Concept 1 basketball shoe, they became the creators of the first shoe proven to instantly make you jump higher due to APL's revolutionary 8-spring Load 'N Launch Technology in the forefoot. As a result, the Concept 1 became the first shoe banned in the NBA's 64-year history for performance reasons for "providing an undue competitive advantage!"

Fast forward to today, and the Los Angeles-based luxury performance sneaker label has grown in size and status – and is regularly seen on celebrities including the Kardashians, Jessica Alba and even Oprah.

APL has recently unveiled its most sustainable and lightest running shoe to date, partnering with AWI's marketing arm The Woolmark Company to launch the APL TechLoom Breeze Merino Wool for both men and women. It is also the first technical-knit footwear to be certified by The Woolmark Company in the global market.

The success of wool in footwear lies not only in the fibre's natural properties, but also in its ability to be constructed in a way that aids performance – and APL's new wool shoe does exactly that.

Each shoe features 80% Australian Merino wool, innovatively knitted with APL's patented, stretch-rebound TechLoom upper, meaning the shoe is knitted to its final shape. It delivers greater elasticity, strengthens the shoe and allows it to naturally hug the foot for maximum support, especially during performance and sports lifestyle activities. It also allows for seamless design features such as breathable panels.

"We teamed up with The Woolmark Company to engineer and create our most sustainable shoe to date," APL co-founder Adam Goldston said.

"After extensive collaboration and more than 18 months engineering and testing, we finally created the first technical-knit footwear to be certified by The Woolmark Company to be released on the global market which we couldn't be more excited about. This is just the beginning of many more innovations to come from APL in the coming months and years."

MORE INFORMATION
www.athleticpropulsionlabs.com
www.woolmark.com/apl



Woolmark licensee **Devold** won an ISPO Outdoor Award in the base-layer category for its **Tuevegga Sport Air reversible base-layer**.

WOOL CONTINUES TO WIN IN SPORTSWEAR

With its focus this year on sustainability, the world's leading sports and outdoor trade show ISPO was the perfect opportunity for brands to drive demand for Merino wool.

Merino wool's presence continues to increase in the rapidly-growing sports and outdoor market. This was very much in evidence at the ISPO trade show last month in Munich which attracted more than 80,000 visitors from more than 120 countries.

Increased competition in the activewear market means a growing number of brands are looking to innovate with natural performance fibres, such as Australian Merino wool. This move not only allows for a point of difference, but also fulfils the demands of environmentally-aware consumers seeking a healthier lifestyle.

AWI's marketing arm The Woolmark Company once again exhibited on ISPO's 'Wool Street', displaying innovative wool products (for activities such as yoga, hiking and cycling) and championing Australian wool's natural benefits and technical properties.

The latest edition of AWI's The Wool Lab Sport sourcing guide was available for viewing, providing visiting manufacturers and brands with direct access to the world's most innovative technical performance fabrics and yarns.

100% wool and wool-rich outer-wear fabrics offer protection from the elements whilst maximising wool's natural benefits of comfort and breathability. The selection includes a wide variety of fabric types and technical blends in single and double weaves or in laminated and bonded versions. Of particular interest is a unique wool-rich windbreaker at a weight of less than 60gsm.



The ISPO Product of the Year in the Outdoor category was awarded to German brand **Grüezi Bag** for its **Biopod DownWool Nature sleeping bag** – made with a down and wool filling, it offers superior insulation and a natural alternative to synthetic wadding. *PHOTO: MesseMünchen GmbH*

"Mid- and base-layers continue to grow, with special lightweight constructions in 100% wool along with unique blends and ripstop alternatives adding another platform for Merino wool and its comfort-adding properties," said AWI Advisor for Sports and Outdoors Lars Ulvesund.

"The Wool Lab Sport also highlights the latest knitting technology, utilising high-tech ADF knitting techniques, giving wool products the extra edge.

"What we also saw at this year's show was the increased presence of leading spinners and their discussions with retailers generating a substantial amount of innovative developments in both 100% wool and technical blends, with core and wrap-spun yarns in combinations of staple and filament fibres.

"Woven wool fabrics were not to be left behind, with Optim™ fabric gaining ground thanks to its unique place in the market – it's a 100% Australian wool wind and water-resistant outerwear fabric. In addition, the innovative weaves with other technical fabrics such as Cordura were also generating a lot of interest."

Prestigious awards were won at ISPO by several companies for their wool innovations. Of note, Woolmark licensee Devold of Norway won with a new addition to the brand's base-layer offering. The Devold Tuvegga Sport Air is a reversible base-layer made from 100% Merino wool, providing the wearer with an all-in-one garment that adapts to different levels of intensity and changing outdoor temperatures.

"There are two sides to this innovation story; one side of the base-layer is recognisable as a classic base-layer with a flat surface offering high breathability. The other side has a 3D fabric construction with air channel knit to generate additional insulation when facing your skin," said Devold of Norway designer Camilla Phil Raugland. "The clear advantage of this garment is that you can choose which side to wear against your skin, depending on your activity level or need for insulation." **B**

FLICK OF A SWITCH HEATS UP WOOL

AWI's technical team has been working closely with wearable technology company KnitWarm to develop wool-rich garments that incorporate electric self-heating technology.



The inside of a jacket using the latest KnitWarm and Optim™ spinning technologies, which has a wind and water-resistant outer-shell, with sections which **can be heated up to 40°C**.

Imagine standing watching the footy in the chilly depths of winter – be it in Manchester or Moscow, Melbourne or Manjimup. You're wearing your woollens but the wind feels like it's blowing straight from the polar ice-caps. So you flick a switch inside your jacket and, hey presto, the fabric starts to warm up.

This can now be a reality, following the development of 'wearable technology' that is set to revolutionise the industry. The global wearable technology market is forecast to be worth more than US\$67 billion by 2024, with an increasing trend for brands to add digital technology to enhance the performance and functional capabilities of a garment.

AWI has been working alongside wearable technology company KnitWarm to implement its eponymous patented knitting technology into wool apparel. KnitWarm is a first-of-its-kind, self-heating textile, with unique softness, flexibility and breathability. It will heat up within 30 seconds to offer instant warmth after plugging into a portable 5V/2A power bank, which can be controlled by a mobile phone app and can also be made to be machine washable.

Using 3D knitting machines that create seamless garments, special Merino yarns from Woolmark licensees Suedwolle and Xiniao – along with woven wool fabrics from Chia Her and Nanshan – are knitted together with an innovative silver conductive yarn which heats up when a charge is passed through it.

The benefits of KnitWarm products are two-fold. Firstly, they can keep the wearer warm in extremely cold temperatures, which coupled with Merino wool's natural benefits such as moisture management and odour resistance will be of particular use to outdoor and mountain enthusiasts. Secondly, KnitWarm complements the health and wellbeing sector, with the fabric heating up to 40°C, replicating a hot spring or sauna and improving blood circulation and muscle relaxation.

"In jackets using this technology, simply heating the upper back is enough to warm the wearer's entire body according to medical practitioners," explained AWI's Hong Kong Technical Manager Brenda Yang. "KnitWarm is now reaching out to groups such as airlines and elite athletes to use this innovative technology. Perhaps even woolgrowers or shearers would benefit from the muscle relaxation after a long day on the farm."

AWI's marketing arm The Woolmark Company debuted KnitWarm technology at Taiwan's TITAS trade show in October 2018. And at the recent ISPO trade show in Germany (see opposite page), The Woolmark Company also showed KnitWarm's capability in jackets using the latest Optim™ spinning technology. The resultant jacket is a wind and water-resistant outer-shell jacket, with sections which can be heated up to 40°C.

"Reports from ISPO have been very positive, with major outdoor brands and even a car brand interested in the technology," said Brenda.

Suedwolle and Taiwanese mill Chia Her also showcased KnitWarm technology in a wool-rich 4-in-1 jacket, winning a prestigious ISPO Award in the urban apparel category.

The next generation of consumers has demonstrated that they are prepared to spend more on these garments as they view them as better meeting their needs. With an awareness of sustainability and the eco-credentials of a garment, consumers are also demanding that these technical advances in garments incorporate natural elements to offset the technical ones, which makes wool the perfect choice.



The self-heating KnitWarm wool-rich 4-in-1 urban jacket that **won a 2019 ISPO award**.



Knitwarm technology on display at The Woolmark Company's stand at Taiwan's TITAS trade show. **Note the small size of the battery** – not much larger than a swing tag.

MORE INFORMATION
www.knitwarm.com

INTERNATIONAL WOOLMARK PRIZE

2018/19 WINNERS ANNOUNCED



Menswear and Innovation Award winner **Edward Crutchley** (left) with Womenswear winners **Nicole and Michael Colovos**.

The International Woolmark Prize generates long-term incremental demand for Australian Merino wool by connecting emerging designers, markets and consumers with Australia's versatile natural fibre.

In front of global fashion celebrities and media, the winners of the 2018/19 International Woolmark Prize were announced in February at a special event during the official schedule of London Fashion Week.

Edward Crutchley from Britain and Colovos from the USA are the winners of the menswear and womenswear categories. Edward Crutchley also won the Innovation Award for the most innovative or sustainable approach to systems production, materials, textile design or product design.

Relaunched in 2012 by AWI's marketing arm, The Woolmark Company, the International Woolmark Prize is designed to generate long-term incremental demand for Australian Merino wool by increasing the knowledge of and lifetime loyalty to the fibre amongst the competition's designers and alumni around the globe.

Furthermore, the phenomenal interest in these awards from fashion communities

INTERNATIONAL WOOLMARK PRIZE AT A GLANCE

- Connecting the world's leading fashion designers with Australian Merino wool is extremely important due to the **enormous influence these designers have in setting global textile trends** for mainstream retail brands.
- Every year, the designers develop and present the most innovative designs, made from at least 80% **Australian Merino wool**.
- Since its relaunch in 2012, nearly 500 of the award's participating designers from 65 countries have received **an extensive wool education** from product development to sourcing.
- The competition's **alumni** (designers and judges) are imbued with a love of wool that often translates into their subsequent collections being wool-rich.
- The designs are judged by some of the most famous and **respected authorities on fashion**, and presented in front of the world's media.
- The winning collections are stocked (including online) by the program's **retail partners**, some of the world's most prestigious department stores and boutiques.

and media globally is helping put wool back on the agendas of a broader range of fashion designers, manufacturers, brands and retailers, and consequently into retail stores for consumers to purchase.

The designs from the 12 finalists – selected from more than 300 applicants representing 46 countries – were judged at the finals event at Lindley Hall in central London by some of the most respected authorities on fashion along with representatives from the International Woolmark Prize retail partner network.

The world's most prestigious department stores and boutiques, including Harvey Nichols and David Jones, will showcase and stock the wool collections of the menswear

and womenswear winners. The Woolmark Company has also partnered with online wholesale platform ORDRE for a third year to present online showrooms for the winners' and finalists' capsule collections to a retail network that will allow wholesale orders to be placed.

For the first time, the International Woolmark Prize also connected with leading industry taste-makers, such as actor Colin Firth, as ambassadors for the award.

"Wool is a great source for a designer, now that everyone talks about sustainability and eco-credentials – wool is it."

Competition judge and designer Alber Elbaz

"I think the importance of the prize grows year on year," said competition judge and Editor-at-large of *Business of Fashion* Tim Blanks. "I'm constantly amazed that what I'm looking at and touching is wool. The potential of this fibre is limitless and such a typical fibre for all the issues it touches on such as sustainability and waste management. I think the International Woolmark Prize is a critical focal point for the power and irresistibility of wool."

"I think the calibre of the designers was very impressive," said fellow judge David Fischer of *Highsnobiety*. "I think it's fantastic that there is a company which pushes innovation in the wool space. It's not just a beautiful fabric but also one that is sustainable and has been around for such a long time. Seeing Woolmark support young designers and the fabric they stand for is a fantastic cause."

"The importance of this prize is unrivalled," added Contributing Editor of *British Vogue*, Sinead Burke.



Actress (Star Wars and Game of Thrones) **Gwendoline Christie** was one of the judges of this year's competition; actor **Colin Firth** was one of the competition's ambassadors. Both spoke on stage to the audience at the award ceremony.

MENSWEAR AND INNOVATION AWARD WINNER

Hailing from rural Yorkshire in the north of England, Edward Crutchley is the first designer to ever win both the Menswear and Innovation awards. His unisex label is grounded in an innate understanding and appreciation of artisanal textiles; the 100% wool entry was inspired by the traditional prints including Indonesian batik, French lace and a traditional shibori tie-dye.

"All of these references come together in a collection made from 100% Merino wool," the designer said. "My approach to innovation within this collection has been very much focused on artisanal skills and how these can be celebrated and used in a relevant and modern way. Every fabric I have used is exclusive and developed solely for this collection."

"I grew up on a sheep farm in the Yorkshire Dales, so I've got lanolin in my blood!"

Award winner Edward Crutchley

Competition judge Tim Blanks said: "I think it speaks volumes that there is a such a clear consensus on the winner of the International Woolmark Prize this year for Menswear and Innovation. I don't think there's ever been a designer like Edward Crutchley in the competition. I find the

whole idea of him being a winner and the figurehead of creative innovative use of wool in the fashion industry so exciting. I can't wait to see what's going to happen."



The **award-winning 100% Merino wool collection of Edward Crutchley** was inspired by traditional artisanal prints.

WOMENSWEAR WINNER

The winning womenswear collection of New York-based husband and wife duo Michael and Nicole Colovos referenced classic wool sportswear and workwear throughout history yet updated this concept with modern proportions and patterning techniques. The tailored coats, pants and skirts are made from wool that is completely traceable, washable and colour- and shrink-proof.

"Colovos' work stood out for its quiet evidence," explained judge and industry expert Floriane de Saint Pierre.

"Its pure design aesthetics, genuine functionality and the amazing and innovative use of super-light wool, combined with the founders' attention to sustainability, make them deserve this great award and recognition."

"Our goal was to create a luxury, modern collection with a fully sustainable proposition."

Award winner Michael Colovos

"We are committed to principles of zero waste in manufacturing," Michael Colovos said. "So all production waste and end-of-life garments will be recycled to create new fabrics, a process that uses steam, heat and citrus to breakdown the



The **award-winning collection of Colovos** was made using innovative wool fabrications with contemporary finishes that evoke the look and feel of denim and silk.

fabric waste and create a new fibre to be spun into fully recyclable yarns." **E**

MORE INFORMATION
www.woolmarkprize.com

TOP DESIGNERS' WOOL EDUCATION



2018/19 International Woolmark Prize alumni and AWI staff: (standing from left): **Daniel Fletcher** of Daniel w. Fletcher (UK, finalist); **Marta Jakubowski** (UK, semi-finalist); **Alex Mullins** (UK, semi-finalist); **Liam Hodges** (UK, semi-finalist); AWI's Marketing Communications Assistant in the UK, **Andra Maier**; **Tessa de Boer** and **Joris Suk** of Maison the Faux (Netherlands, semi-finalist), **Antonio Romano** and **Francesco Alagna** of COMEFORBREAKFAST (Italy, semi-finalist); AWI's Marketing Assistant in Italy, **Elena Zanini** and AWI's Marketing & Communication Coordinator in Italy, **Valeria Prencipe**. **Simone Ubertino Rosso** from Vitale Barberis Canonico is in front. Designer **Richard Malone** (UK, semi-finalist) was absent from the photo.

The International Woolmark Prize isn't just about a competition. It's also about educating the designers about the qualities and benefits of wool, so they'll keep on using the fibre throughout their careers.

As part of the International Woolmark Prize mentoring program, nine designers from seven brands taking part in the 2018/19 competition joined a tour and workshop in November at two of Italy's leading wool mills, discovering the process of converting the fibre from greasy wool to yarn and fabric.

As well as experiencing first-hand all the steps of wool manufacturing processes, they also learnt the many possibilities of working with this versatile fibre and the elements that can be customised or experimented with to fit a designer's unique vision.

The designers visited the iconic family-owned wool mills Zegna Baruffa Lane Borgosesia (spinner) and Vitale Barberis Canonico (spinner and weaver), accompanied

by representatives from AWI's Milan office. The trip provided the opportunity for the designers to increase their knowledge of the wool manufacturing process and build valuable networks in the industry.

According to designer Daniel Fletcher, a finalist in this year's International Woolmark Prize, the mill visit was extremely insightful.

"The trip helped me to see the huge variety and possibilities of wool and gain a greater understanding of the craftsmanship involved in producing it," he said.

As a result of the tour, Daniel has begun working with one of the mills, integrating wool into his recent autumn/winter 2019 collection in a significant way, with a strong focus on wool tailoring and knitwear, both of which were highly acclaimed in a review by fashion bible *Women's Wear Daily*.

"As a pillar of the fashion industry's future, the International Woolmark

As part of the ongoing International Woolmark Prize mentoring program, nine designers in this year's competition were given the opportunity to visit textile mills in Biella, Italy – the home of luxury wool fabric production.

Prize looks to continue its long legacy of supporting emerging designers in ways that allows them to connect, develop and commercialise their brands," AWI CEO Stuart McCullough said.

"Since its relaunch in 2012, nearly 500 young designers from 65 countries have benefited from the International Woolmark Prize's mentorship, education and supply chain connections running from raw fibre right through to end-product. This network grows yearly and works to build strong relations between the global fashion industry and Australian wool.

"Through the program's mentoring program, the designers are imbued with a strong knowledge and love of wool that often translates into wool-rich collections." B



Designers **Daniel Fletcher** and **Marta Jakubowski** examining some Merino wool fabric.



The designers experiencing the softness of the wool top at **Zegna Baruffa Lane Borgosesia**.

MILLER'S MILLS

British fashion designer and last year's menswear winner of the International Woolmark Prize, Matthew Miller, journeyed east to launch his capsule collection and see how Australian wool is made into fabric, the Japanese way.

LAUNCH OF MILLER'S WINNING COLLECTION

As part of Matthew Miller's International Woolmark Prize win for 2017/18, he travelled to Tokyo to unveil his awarded collection at leading department store Takashimaya. Founded in 1829 in Kyoto, this heritage Japanese store has an impressive presence across the country and particularly in Tokyo's central business and luxury district, Nihonbashi. It was here that Miller's garments were prominently located for two weeks in a special International Woolmark Prize pop-up space on the ground floor; a space usually reserved for high-turnover cosmetics and women's accessories.

"The city itself is going through a revolution and it's great to see that first hand, and something I've experienced before in London in the run up to the 2012 Olympics," explained the designer. "Retail is booming and it was great to meet with some of the people behind forward-thinking retail spaces such as Dover Street Market, Takishimaya, Hankyu Mens, Beams and United Arrows."

As part of Takashimaya's retail partnership with AWI's marketing subsidiary The Woolmark Company, this pop-up store also featured the womenswear and Innovation Award winning garments by Bodice Studio and DYNE, respectively, as well as those of one other International Woolmark Prize finalist, Le Kilt, whose wool-rich collection was also bought and commercialised by the department store.



Last year's International Woolmark Prize menswear winner, **Matthew Miller** (centre), at the launch of his winning collection at the Takashimaya department store in Tokyo.


MILL VISITS IMPRESS MILLER

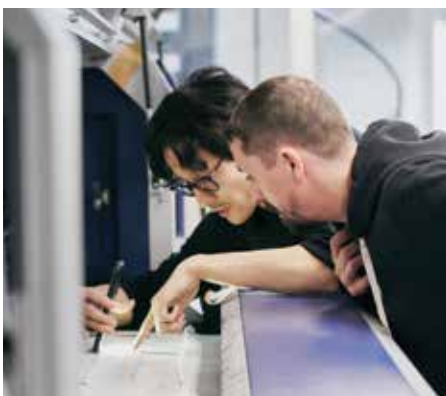
After a series of media interviews, Miller then travelled to the Bishu region, known for its long history and continuing innovation in Japanese textile manufacturing. Matthew visited two mills to learn first-hand how some of the best textiles in the world are made. Firstly, Nakaden, which impressed Miller with its scale and scope given it makes both knitted and woven fabrics in a large, multi-site operation. This contrasted greatly to the second mill, Kuzuri, which uses exclusively hand-operated ancient looms in a small wood-beamed factory also housing an archive of fabric swatches – mostly wool – spanning almost 100 years.

"The mills in Bishu were phenomenal, and Kuzuri blew me away. I've honestly never seen anything like it in the world. It was like something from a steam punk manga comic, whizzing, whirring and clattering all in a Victorian-Japanese collaboration with a post-punk soundtrack. And then at the end came out the most beautiful wool I have ever seen."

The designer also visited a state-of-the-art printing lab situated in a modernist concrete building in the middle of rice fields outside of Kyoto. "S.C Design Lab is a homage to the future of Japan," he stated. This company is highly specialised in digital ink-jet printing on wool textile. Relative to screen printing, which is a more common method of getting patterns and images onto fabric, digital ink-jet printing is able to feature an infinite variation of colours and tones on the one textile. Screen-printing only allows for a maximum of 13.

This digital methodology is relatively common for cotton, other plant-based fabrics, and of course synthetics. Wool, however, being protein-based requires different treatments for the ink-jet dyes to penetrate and stay on the fabric. S.C Design Lab, however, has researched, tweaked, and fine-tuned this extensively and has a highly-protected methodology to work with wool.

For a young, experimenter like Matthew Miller, this was the designer's equivalent of finding the golden fleece: "what they can do with digital printing is by far the best I have ever seen." 



S.C Design Lab specialises in digital ink-jet printing on wool textile.



Nakaden impressed Matthew Miller with its scale and scope.



Kuzuri uses exclusively hand-operated ancient looms.

MERINO WOOL TAKES CENTRE STAGE

Australian fashion designer and International Woolmark Prize alumnus Dion Lee has created new uniforms for Sydney Opera House staff, working with Australian Merino wool in a nod to the heritage of the Australian icon.

When Australian fashion designer Dion Lee took to the task of preparing for the International Woolmark Prize as a finalist in the 2012/13 edition – the first in the program's current incarnation – he looked no further than his home country's most famous architectural icon for inspiration: the Sydney Opera House.

It's a relationship with both Merino wool and the famous Sydney icon which has continued to develop across the years, resulting in the designer being approached by the Sydney Opera House CEO, Louise Herron AM, to design

uniforms for the House's staff. Naturally, Australian Merino wool was his fibre of choice.

The modular collection is made up of 24 pieces, to be worn by some 500 staff across many different facets of the organisation, including its front of house and welcome teams. The uniforms are a key part of the journey when a visitor or performer sees, enters and then discovers the building. Unlike a seasonal fashion collection, staff uniforms come with their own challenges, least of all a vast array of sizes and shapes, but also the need to maintain relevance and not quickly date, given they are unlikely to be updated for years to come.

"I was extremely excited by the idea and immediately had a vision for the uniforms," said the designer, which are the first new uniforms in more than 14 years and were launched as part of the building's 45th anniversary in late 2018. "There were many challenges in terms of garment functionality, incorporating the many utilitarian elements that a uniform requires. Pockets, belts and openings were required in order to carry and

suspend very specific pieces of equipment, including radios, torches and name badges."

The use of wool is key to the range, given its many natural performance qualities. "It was important for us to use wool so that we could mould to the body and achieve a refined finish. The breathability of the fabric is extremely important being a trans-seasonal uniform; it needs to be warm in the winter and cool in the summer."

Lee, of course, trained his eye on the building itself for creative inspiration, his intention to "create an iconic, timeless uniform that captures the sculptural inspirations of the building's structure and communicates the Opera House's brand in a modern and sophisticated way". The resultant range employs a monochromatic navy colour palette, with the building's concrete inspiring folded accents along the lapels of the tailored jackets and the pockets of the trousers. A pleated dress and skirt take their structural cues from the building's monumental steps. B



Sydney Opera House staff, with Opera House CEO Louise Herron and designer Dion Lee (centre), model their new uniforms on the steps of the iconic building. PHOTO: James D. Morgan

The designers and brands who were hosted on the trip to Anlaby. Back row: **Blair Archibald**, **Margie Woods** of Viktoria & Woods, marketing manager **Leila Hibri** of Helen Kaminski and **Jacinta Demetriou** of Jacinta James. Front row: **Ainsley Hansen** of Hansen & Gretel and **Marina Afonina** of Albus Lumen.



A MEETING OF MAKERS

Six top Australian fashion designers and brands visited a historic wool-growing property in October, as part of an AWI initiative to educate design talent about the origin and benefits of wool.

AWI's marketing arm The Woolmark Company partnered with the Australian Fashion Council (AFC) to take six Australian fashion designers and brands on a memorable day trip to Anlaby Station near Kapunda in South Australia, as part of the AFC's 'Makers Meeting' series.

The designers and brands were invited to attend the educational event to learn more about the production of wool and gain a greater understanding of the industry, from the provenance of wool to the stakeholders within the industry.

By fostering the relationship between top tier Australian designers and brands and the grassroots of the Australian wool industry, AWI aims to strengthen the wool supply chain.

The visitors were welcomed on farm by Andrew Morphett and Peter Haywood who run and own 'Anlaby'. Andrew explained to them the annual cycle of wool-growing and the opportunities and setbacks experienced by farmers throughout the seasons.

AWI sheep industry specialist Stuart Hodgson presented a classing demonstration, explaining how to judge a sheep's qualities, from sheep conformation to wool characteristics, whilst also explaining the lifecycle of a sheep and the skills needed

to manage a sheep property.

This was followed by a shearing demonstration and a lunch to discuss any questions raised by the visitors.

Blair Archibald, a finalist of the 2017/18 International Woolmark Prize representing Australia for menswear, says that it is critical for designers to understand how textiles are sourced and produced.

"For me, I can incorporate this into my design ethos and continue the conversation of educating clients on the origins of the garments they purchase so that they can make more informed buying choices," he explained.

"The complexities and environmental variables in raising sheep and ensuring as much consistency in the quality as possible was very illuminating to see. I previously understood the dynamics of the wool fibre but didn't fully grasp the specifics of growing wool on a farm of that scale."

For Marina Afonina, 2018/2019 International Woolmark Prize womenswear finalist, the visit provided insight into the production of the fibre she used in the collection *Pure Discovery* which won her a place at this year's final.



AWI's **Stuart Hodgson** explains the fundamentals of wool-growing to six top Australian fashion designers and brands in the historic 'Anlaby' shearing shed.

"We really valued the opportunity to be educated by experts on such a prestigious property! We truly believe we gained an advantage by learning the Merino wool process beginning at the lifestyle of a Merino sheep to the culture of the shearers and farmers who maintain the land. The day was completely transparent which allowed us to connect and have a personal relationship to the source," Marina said.

"Having the opportunity of being exposed to the raw fibre has sparked a sensitive and emotional outlook when making decisions within the industry. As a result of our experience we now always think deeper into fabrics, their life span and ethical values. Sampling for Woolmark is so much more rewarding now!"

ONLINE RETAIL

With more and more apparel purchases being made online, AWI's marketing arm The Woolmark Company hemisphere winter to highlight the season's best wool apparel and build demand for the fibre.

NET-A-PORTER.COM

From women's tailoring to functional apparel, leading luxury retailer NET-A-PORTER recently shone the spotlight on wool to showcase the true versatility of the natural fibre, thanks to a partnership with The Woolmark Company.

Since launching in June 2000, NET-A-PORTER has established itself as the world's premier luxury fashion destination.

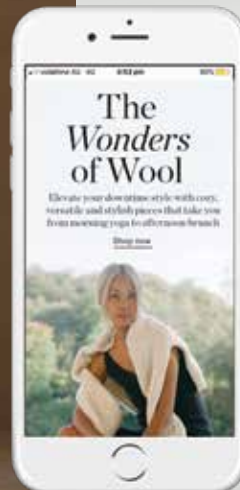
A pioneer of innovation, NET-A-PORTER speaks to a monthly audience of more than six million people via a global multi-channel ecosystem, including PORTER magazine, porter.com and net-a-porter.com, offering a seamless shopping experience across mobile, tablet and desktop.

Speaking to a community of high-income earning women across 170 markets in four languages, NET-A-PORTER is the ultimate global retail-media partner with luxury consumers, who, on average, spend £34,500 (A\$62,000) each year on fashion.

AWI's marketing subsidiary The Woolmark Company recently partnered with the NET-A-PORTER group to promote luxury Merino wool products to this discerning and lucrative audience.

Collaborating with influential style blogger and entrepreneur Vanessa Hong – whose blog The Haute Pursuit has more than 626,000 followers on Instagram alone – NET-A-PORTER produced a dedicated photoshoot for The Woolmark Company which featured across social media and the magazine-style porter.com. The two dedicated features highlighted the versatility of wool through showcasing the fibre outside its traditional norms and enjoyed a click-through rate well above average. Each feature was also promoted across Porter Magazine's Instagram account, reaching more than 600,000 people

Style blogger Vanessa Hong (who has more than 626,000 followers on Instagram) was featured wearing the latest wool garments that could be purchased directly via the NET-A-PORTER website.



SUITS YOU

The first feature, titled Suits You, highlighted the role of Australian wool in sharp, modern tailoring for women and included wool apparel from designers Stella McCartney, Emilia Wickstead, Acne Studios and International Woolmark Prize alumnus Gabriela Hearst.

"Wool is so dynamic. When people think of Merino wool, they often picture big chunky sweaters and don't necessarily think of a great matching blazer and pants," Vanessa Hong told NET-A-PORTER, referring to a Gabriela Hearst suit she modelled for the collaboration. "Not only is it practical, it just makes you feel so comfortable."

ELEVATED DOWNTIME STYLE

The second featured focused on functional and activewear wool apparel and included wool looks from P.E Nation, 3.1 Phillip Lim and Erin Snow. The article explained the science of Merino wool and what makes the fibre the ultimate for performance wear.

"Not only does wool's natural crimp provide amazing insulation, the science behind wool's next-level comfort really stacks up: unlike synthetic fibres, clothing made with wool has the ability to absorb large quantities of moisture vapour and allow it to evaporate, making it feel looser and less clingy," said NET-A-PORTER.

MORE INFORMATION
www.net-a-porter.com

PARTNERSHIPS

has collaborated with two of the world's largest luxury online retail platforms during the northern



Last year's **International Woolmark Prize** winning collection from **Bodice Studio**, along with many other wool garments, was featured and was available to purchase via the Farfetch website.

FARFETCH.COM

Luxury online retail platform Farfetch has promoted the seasons' best wool apparel available – for both men and women – as part of a four-part partnership with The Woolmark Company.

Wool was featured on the hugely popular Farfetch online retail platform during the northern hemisphere winter.

Farfetch is an online luxury fashion retail platform headquartered in London, but its retailers ship from and to countries across the world.

The four-part wool feature on Farfetch, produced in collaboration with AWI's marketing arm The Woolmark Company, merged content with commerce. It enabled its customers to be inspired by creative editorial and videos about new wool products and – importantly – then be guided along a pathway to purchase the garments online.

Targeting the Farfetch customer – more than half of which are millennials, who have an average household income of £103,000 (A\$185,000), spending on average £8000 (A\$15,000) per year on fashion, with 60% of that being purchases made online – the brands featured were selected for their innovative and modern interpretations of Merino wool.

The initiative shone the spotlight on beautifully crafted wool pieces from the 2017/18 International Woolmark Prize winners along with other brands who recently worked with The Woolmark Company.

Farfetch also sent out a Woolmark-dedicated email to its 200,000+ database, promoting all aspects of the partnership. Overall, all brands which were featured enjoyed an increase in brand awareness and sales, proving the right product was being targeted to the right audience.

FACETASM

Celebrating the two-season partnership between The Woolmark Company and leading Japanese label FACETASM, Farfetch promoted the innovative wool collection across its online and social media channels. This campaign resulted in a 34%

increase in Farfetch customers searching for FACETASM and an increase of 366% in product sold from this brand.

INTERNATIONAL WOOLMARK PRIZE

The winning collection from both Bodice Studio and Matthew Miller were featured, building a strong brand awareness for these emerging design talents amongst a fashion-forward global audience. New to Farfetch, Bodice Studio's content had more than 330,000 impressions, with customers consuming this content for longer than the average time. Already stocked on Farfetch, Matthew Miller's content had more than 1.8 million impressions and enjoyed a 291% increase in on-site search and increase in sales.



P.E. NATION

The premium Merino wool activewear collection developed by leading Australian sportswear label P.E. Nation in partnership with The Woolmark Company featured in a womenswear homepage takeover, push notification to Farfetch mobile app users and social re-targeting on Facebook and Instagram. This was a high performing campaign in terms of high awareness generated, deep engagement and strong return on investment. The content had more than 1.6 million impressions, resulting in a 17% increase in sales during the campaign.

THE WONDERS OF WOOL

The Winter Layering campaign, produced by Farfetch's in-house editorial team, went live in November. The campaign shone the spotlight on current season hero wool pieces from menswear and womenswear designers available to shop on Farfetch.com. The shoot was supported by a homepage takeover and social re-targeting. **E**

MORE INFORMATION
www.farfetch.com

WOOL FROM COTTONOPOLIS

Manchester was legendary for its cotton industry, but iconic Manchester menswear brand Private White V.C. has now partnered with The Woolmark Company to unveil a classic five-piece collection made from Australian Merino wool.

Long before Manchester had football, it had cotton. The city and surrounding region was built on the success of spinning and sewing during the industrial revolution of the 19th century, giving rise to its nickname: Cottonopolis. In Australia, the term 'manchester' is still used for household linen.

Manchester has been home to Private White V.C. (under a previous name) since the company opened its doors in 1853. When the factory was founded, it was one of more than 300 in the Manchester area. However, as the region's production slowed during the 20th century and moved offshore, the beautiful red brick mills in the North West of England fell silent.

But this resilient company on the banks of the River Irwell persevered. As the last remaining clothing factory from the world's first industrial city, Private White V.C. has a remarkable story to tell.

Over the years, the company has made for kings and queens, for presidents and prime ministers, for rock stars, musicians, sporting

greats and Hollywood icons. In 1916, it supplied the Allied Forces with trench coats, and in the 1940s was commissioned to supply the RAF with waterproof parkas. In more recent times it has been outfitters to the most established tailoring houses on Savile Row and has manufactured for pretty much every British luxury outerwear brand.

Of course there have been bleak periods, but the company has weathered those storms thanks to a wealth of skill, determination and the hard work for which the city of Manchester is renowned. It still does everything from the same red-bricked building on its original site, a few minutes stroll from where the Commonwealth's Cotton Exchange used to stand.

For Private White V.C., not much has changed. Nothing is outsourced, everything is handmade, checked and controlled by its own staff.

TO THE PRESENT DAY - AND ITS NEW WOOL COLLECTION

The brand Private White V.C. pays homage to its namesake WWI hero, Private Jack White (see opposite page). On returning from war, Private Jack White began working as a pattern cutter at the factory in Manchester, working his way up through the ranks to become its owner.

The business, now owned and driven by Jack's great-grandson James Eden, proudly utilises the finest British craftsmanship, sourcing

fabrics from local mills and employing traditional manual production techniques. Its highly skilled workforce takes total ownership of the entire manufacturing process.

With meticulous attention to detail, emphasis on high quality materials and a classic aesthetic, Private White V.C. is a brand for the modern gentleman who demands integrity, style and durability from his clothing. The collection is designed by former head of Dunhill menswear, Nick Ashley (son of fashion designer Laura Ashley) and is directly inspired by Private Jack White's wardrobe.

Towards the end of last year, the brand was proud to unveil a new collection of quintessentially British menswear pieces made, not from cotton, but wool. This release followed a collaboration with AWI's marketing arm The Woolmark Company. It is an elegant and casual Australian Merino wool collection consisting of five garments. All the 100% Merino wool fabrics were woven locally in the some of the UK's most venerable mills.

Private White V.C. CEO James Eden said he was proud to release a collection that highlights the natural properties of Merino wool, one of the most eco-friendly and luxurious fibres in the world.

"Beautifully soft, versatile and resilient, Australian Merino wool naturally breathes providing year-round comfort anywhere, any time," he explained. "Natural, renewable and biodegradable, Merino wool is the responsible choice for today's conscious consumer."





Three items from the five-piece collection: the **Merino Wool Shacket**, **Merino Wool P.O.W. Bomber** and **Merino Wool Doeskin Mac**.

THE MERINO WOOL COLLECTION

The Merino Wool Doeskin Mac is an elegant single-breasted overcoat handcrafted using a super-soft 100% Australian Merino wool woven in Yorkshire with an exclusive doeskin weave. Half-lined, fly-fronted with a military grade centre-front zip and stud fastening, this shower-proof Mac is the perfect silhouette to transmit the luxurious look, feel, drape and performance of the Merino wool cloth.

The Merino Wool P.O.W. Bomber is a versatile wool bomber with signature military-grade copper centre-front zip from RIRI of Switzerland. The 100% Australian Merino wool outer cloth has been woven in Yorkshire in an exclusive tonal Prince of Wales check pattern. It features two external patch pockets with stud-secure flaps and side entry and two internal double jet pockets.

The Merino Wool Shacket is a more casual but equally dependable alternative to the traditional blazer. With an elegant double vent at the rear with concealed button fastening, the Shacket boasts enough formal features to pair with a crisp shirt and tie but also equally

lends itself to weekend wear. It is unstructured and fabricated using the finest 100% Australian Merino wool woven in Yorkshire.

The Merino Wool Gilet is wool-wadded and has been fabricated using the finest 100% Australian Merino wool woven in Yorkshire. The innovative 100% wool wadding provides optimal breathability and extreme insulation from the elements. It features two external patch pockets with side-entry and stud fastening, along with centre-front fastening with gunmetal snaps and an Alcantara trim detail.

The Merino Wool Round Neck Sweater is made from 100% superfine Australian Merino wool by Johnstons of Elgin.

The collection is available online on the Private White V.C. website, in its London store and on the hugely popular Mr Porter luxury menswear online store. **B**

MORE INFORMATION
www.privatewhitevc.com

Private White V.C. is a renowned British menswear brand committed to producing garments of the highest quality, all manufactured in its very own **factory in the heart of Manchester.**

THE STORY OF PRIVATE JACK WHITE V.C.

The founder of the Manchester factory was born in Leeds in 1896. At the tender age of 18, he joined the Royal Lancaster Regiment and became Private Jack White.



On 7 March 1917 his unit was detailed with crossing the Dialah River in Mesopotamia during battle. The two pontoons ahead came under heavy fire and when Private White reached

the mid-stream point, he realised he was the only soldier who wasn't fatally injured or already dead. Summoning tremendous courage, he jumped overboard with a copper telephone wire* tied around his waist and dragged the pontoon safely back to shore whilst under attack from persistent enemy gunfire. Commended as a WWI hero, Private White's bravery saved the life of his commanding officer and preserved the valuable equipment aboard the pontoon.

After his service in the military, he returned to Manchester and began work as a trainee pattern cutter at the local garment factory. On completion of his apprenticeship, he rose through the ranks to become General Manager, and then factory owner. In the years that followed, his influence led the company to specialise in the manufacture of garments made from fine woollen cloths made in Yorkshire – as opposed to specialising in cotton raincoats and mackintoshes that were more commonly made in Lancashire at that time.

Following WWII and with failing health, Jack was forced to retire and passed away in 1949, aged 52. Remarkably, in 1997, Private Jack White's great grandchildren joined forces to bring the company back to family ownership. Nearly 70 years after his death, they are once again championing the virtues of Manchester's garment making industry. **B**

*The use of distinctive copper zips, studs and rivets throughout the Private White V.C. collection are an easily identifiable tribute to the copper telephone wire used by Jack to bring the pontoon back to safety back in 1917.



BORN FROM NATURE, MERINO WOOL

In the highly competitive shopping season of December, it takes something special to attract shoppers, particularly in the saturated market of downtown Tokyo. This is why AWI's marketing arm The Woolmark Company hosted a shopping centre takeover to truly show what wool can do.

A high-visibility Merino-themed campaign was carried out throughout the premium Tokyu Plaza Ginza shopping centre, located in the heart of the luxury shopping area in Tokyo at the end of last year. This centre, inaugurated in 2016 as the hot new landmark of the Ginza district, faces the Sukibayashi Crossing that itself boasts more than one million in foot-traffic per week.

Running for a full month to target the Christmas season, which is less of religious holiday than a huge present-giving moment in Japan, the Tokyu Plaza Ginza campaign invited local felt artist Terumi Ohta to create animal-themed art pieces to express and emphasise Merino wool's natural origins, and coupled these with wool-rich garments from the major stores in the centre.

Ohta, a self-taught artist who discovered needle felting in 2012, has since been an



The premium Tokyu Plaza Ginza shopping centre in Tokyo had a billboard on its large fascade that promoted Merino wool for the entirety of the December shopping period.



Animal-themed art pieces throughout the Tokyu Plaza Ginza shopping centre emphasised and expressed in an eye catching and unique way Merino wool's natural origins.

invited guest several times on primetime television shows in Japan – a medium that still holds incredible weight in the country. Ohta has thus grown a large following in a relatively short period of time with her practice of creating dream-like animals out of wool-felt.

TAKING OVER THE ENTIRE SHOPPING CENTRE

Aimed to create a journey through the possibilities of wool, this project took over the entire shopping centre. As shoppers approached the building, the giant billboard of Ohta's work with the caption 'Born from Nature, Merino Wool' would first catch their eye.

Then, as they ascended into the building on the escalators, both the left and right walls were covered in digital signage, hinting at the wool narrative of what they were about to encounter.

Across six high foot-traffic areas in the shopping centre, eye-catching installations-come merchandising displays showed not only the magic of what wool could transform into, thanks to the work of the artist, but also the best wool garments selected from the stores all around them, accompanied by specific information on Merino wool's benefits, on the garments, and where to find them.

As shoppers then entered each of the 29 participating stores, wool-themed displays continued the narrative of Merino wool, and encouraged purchasing for both themselves and their loved ones for the Christmas gift-giving period.



29 stores at the shopping centre took part in the promotion, increasing the sales of their Merino wool products.

WIDE RANGE OF WOOL GARGMENTS AND RETAILERS

Covering a full range of merchandising categories from under garments to accessories, womenswear, menswear and outerwear, the scope of this project promoted every possible gift item shoppers could desire.

Participating retailers included prominent international brands Margaret Howell, Mackintosh and Emporio Armani, as well as premium local brands. As Samuel Cockedeey, AWI's Country Manager for Japan explained, "This project, timed with the most significant shopping period for Japanese consumers, created unprecedented visibility for The Woolmark Company and in particular for Merino wool throughout the prestigious Tokyu Plaza Ginza building."

Activations on social media bolstered the visibility and awareness of this promotion, with online posts by influencers receiving an engagement rate well above average. These key influencers were selected for their varying but complementary audiences, and each posted imagery of the displays as well as themselves in some of the wool-rich garments that could be found as part of the promotion in Tokyu Plaza Ginza.

JAPAN COLLABORATION DRIVES SALES GROWTH

AWI has collaborated with one of Japan's leading men's brands TAKEO KIKUCHI, to consolidate the reputation of Australian wool in Japan and drive sales of garments made from Australian wool.

The partnership between AWI's marketing arm The Woolmark Company and TAKEO KIKUCHI promotes the versatility of Merino wool in the Japanese brand's men's clothing for both the business and casual sector. Targeting Japan's middleclass millennials, the campaign began in November last year for Japan's autumn/winter season and will continue for its spring/summer 2019 season.

Owned and operated by World Group, the third largest apparel company in Japan, TAKEO KIKUCHI has annual sales of AU\$300 million and operates 112 stores. Manufacturing high quality clothing at an affordable price-point, TAKEO KIKUCHI holds a similar place in the Japanese market as Country Road holds in the Australian market, although selling mainly to the men's market rather than women's.

In May 2018 TAKEO KIKUCHI's Chief Designer Mr Teruyoshi Fujiwara and Head of Product Development Mr Hiroya Fujimoto were invited by AWI to visit Merino sheep properties in Australia (see the September edition of *Beyond the Bale*). The educational visit was well received and off the back of this trip the collaboration was confirmed.

The two-season partnership involves the promotion of 74,000 wool garments including 10,000 garments certified with the Woolmark logo. Each garment will have a minimum of 50% Australian wool.

AWI Country Manager Japan Samuel Cockedeey says TAKEO KIKUCHI is the perfect mid-tier brand to consolidate Australian wool's place in the mainstream men's apparel market in Japan.

"TAKEO KIKUCHI is a well-established brand, known for the quality of the garments it produces. The Woolmark-certified products created through our collaboration fit well into the aesthetic of the brand and have been well-received by TAKEO KIKUCHI's loyal consumers."

The collaboration launched with 100% Merino wool sweaters during a Christmas specific incentive campaign which was accompanied by promotional activations in store. A wool-themed in-store display was established in the flagship store in Tokyo and activations were installed in 31 other key stores across Japan.

Path to purchase activations, wool education resources and marketing collateral were placed in a further 80 shops.

To accompany the manufacturing and retail partnership, The Woolmark Company offered its Wool Appreciation Course and Retail Training Booklets to TAKEO KIKUCHI's store managers and training managers ensuring staff are well educated and on-message – enabling them to convert conversations about the wool in-store into sales.

"To ensure this collaboration has influence long after the committed two season partnership, The Woolmark Company has delivered the Wool Appreciation Course to both sales and training staff at TAKEO KIKUCHI, giving the brand a solid education about the benefits of Australian wool. This has also resulted in ongoing discussions to support the brand in the launch of new categories of wool products next summer," Samuel explained.

"By combining the manufacturing and retail partnership with education and support, The Woolmark Company's local office in Japan has tailored this collaboration to suit the Japanese market, ensuring the most effective and efficient result."

The first iteration of the Wool Appreciation Course was delivered to 26 TAKEO KIKUCHI shop masters, whilst Business to Consumer (B2C) brochures were placed across the activated stores to educate shoppers about the benefits of Australian wool.

The TAKEO KIKUCHI flagship Tokyo store featured a wool-themed display throughout the Christmas retail season. AWI's partnership with TAKEO KIKUCHI will continue for Japan's spring/summer season.



CHINA'S NEW GENERATION INNOVATING WITH WOOL

Driven by increasing technological innovation and global trade, the Chinese wool industry is changing faster than ever. At the forefront of this change is a new generation of fashion brands and manufacturers – six of which are featured in a series of videos produced by The Woolmark Company to promote the use of Australian wool.

Over the past six months, AWI's marketing arm The Woolmark Company visited and filmed six young leaders from the Chinese fashion and textile industry to showcase their innovative approach to using Australian wool.

The video series, showcasing three fashion designers (who have previously competed in the International Woolmark prize) and three manufacturers, was shown throughout November and December on Chinese social media platforms Weibo and

WeChat and was viewed 132,730 times. In the videos, all the interviewees invariably showed their love and passion to wool.

AWI Country Manager for China, Jeff Ma said the positivity in China's manufacturing and fashion industry continues to build alongside these emerging entrepreneurs.

"The six innovators we chose to highlight for the video series – titled *The Young* – are extremely talented. It's exciting to collaborate with them

and rewarding to see that they choose to work with Australian wool," Jeff explained.

"Through collaboration with The Woolmark Company, these manufacturers and designers have applied their passion and expertise to the wool industry in new ways and we look forward to their future innovations with wool." **B**

MORE INFORMATION

View the six videos on Weibo at www.weibo.com/woolmarkmlrw

THE MANUFACTURERS



XINAO

"My elder generation has spent more than 20 years leading Xiniao and turning it into what it is now," said **Phillip Shen** of Xiniao, one of the world's largest worsted spinners of wool. "I think for young people like us to enter the industry is a kind of encouragement to those predecessors."



NANSHAN

"Nanshan Group was founded in 1978 by my father. It was only a small mountain village back then," said **Jeremy Song**, Chairman of Nanshan, now one of China's leading textile enterprises. "For more than a decade now, Nanshan and AWI have been working closely on innovations in wool."



SHEPHERD

Shepherd works with global brands to develop breakthrough innovations and fabric structures for wool blends. Company founder **Zheng Qi** is keen on pushing boundaries using wool. "If you don't try something new in fabric development then you will never know if you can do it," he said.

THE DESIGNERS



PRONOUNCE

Designers **Yushan Li** and **Jun Zhou** said that wool is their fibre of choice: "We use a lot of wool every season, so for the spring/summer collection we use some functional Cool Wool. We really like wool. It can be very flexible but also be very strong, and can be moulded into different shapes."



XUZHI

"In our new collection, we use a lot of denim, and the denim we're using this time is wool denim which is a great innovation," said designer **Xuzhi Chen**. "It keeps the breathability and comfort of the natural wool, and gives the fabric some styling features which is fresh and young."



STAFF ONLY

Designers **Shimo Zhou** and **Une Yea** said that their International Woolmark Prize collection focused on the functionality of wool with the aim of breaking stereotypes. They have built on this concept in their newest collection for spring/summer, showing wool's ability to adapt to warmer climates.

ACHIEVEMENTS IN CHINA RECOGNISED BY DFAT

AWI has been acknowledged by the Australian Government for the company's support of Australia-China relations by way of its fostering of international trade and textile innovation.



AWI Country Manager for China, **Jeff Ma**, alongside the Australian Minister for Foreign Affairs, **Marise Payne**, as she gives a speech at the Australian embassy in Beijing marking the 45th anniversary of Australia-China diplomatic relations. PHOTO: DFAT/Chris Crerar

4⁵ Years, 45 Stories is an initiative of the Australian Government through the Department of Foreign Affairs and Trade, marking an important milestone for the ever-expanding relationship between the countries.

AWI's marketing subsidiary The Woolmark Company was one of 45 organisations chosen by the Australian Government to be featured in the initiative that included a collection of stories told from Australian and Chinese perspectives and which celebrated the evolution of Australia-China relations.

A commemorative book titled *45 Years, 45 Stories* was launched on 8 November at an event at the Australian embassy in Beijing attended by the visiting Australian Minister for Foreign Affairs, Marise Payne; the Australian Ambassador to China, Jan Adams; AWI Country Manager for China, Jeff Ma; and other VIP guests.

In the book, Jeff recounts how AWI developed its partnership with supermodel Lu Yan's fashion brand Comme Moi – the first Chinese brand to collaborate with AWI on a collection made from Australian Merino wool – as an example of how AWI builds demand for Australian wool in China.

"I first met Lu Yan when she was one of the judges for the International Woolmark Prize 2015/16 Asia Regional Final. She was inquisitive and attentive to each designer nominee, even trying on some of the garments to get a proper idea of the silhouette and handle of each piece. We ended up talking at length about her modelling experience in the fashion industry, as well as her first foray into fashion design with the creation of her brand Comme Moi. That

conversation was probably the moment where we both thought The Woolmark Company and Comme Moi could collaborate on a collection.

"Comme Moi's use of Australian Merino wool shows just how versatile this luxurious fibre can be. Gone are the days of wool only being used for winter wear and uniforms.

"I feel incredibly lucky to work on such an important partnership and one which so beautifully connects the Australian wool and Chinese textile industries."



AWI Country Manager for China, **Jeff Ma**; Australian Ambassador to China, **Jan Adams**; and designer **Lu Yan** at the launch of a Comme Moi Merino wool collection in Beijing in 2017.

HONG KONG FASHION FORUM HIGHLIGHTS AUSSIE WOOL

AWI partnered with a fashion forum in Hong Kong to help promote Australian wool to the leading lights of the region's textile industry.

Reinforcing Hong Kong's position as the Asian hub for fashion trade and business development, the Hong Kong government's Fashion Asia Hong Kong initiative combines insightful conversations, engaging interactions and cultural exchanges.

The program brings together brand executives, cutting-edge designers, entrepreneurs, merchandisers, buyers, marketers, strategists and creatives from various fields to discuss the most pertinent issues facing the industry today, while providing insight and strategies to navigate the current market.

The Fashion Challenge's two-day forum was supported by AWI's subsidiary The

Woolmark Company, with the aim to ignite dialogue around the enduring prominence of Australian wool in the global fashion industry. It featured panel discussions with AWI's global manager for the International Woolmark Prize, Lucy Owen, and fashion designer and 2013/14 International Woolmark Prize winner, Rahul Mishra.

The Woolmark Company also partnered with young and emerging fashion labels and past Hong Kong International Woolmark Prize finalists and semi-finalists to deliver a fall/winter collection showcasing to the crowds a wide range of fabrics and design techniques crafted with Australian Merino wool.



AWI's **Lucy Owen** and fashion designer **Rahul Mishra** promoting wool at the fashion forum.



Local designers created an autumn/winter collection showcasing Australian Merino wool.

RALPH LAUREN

AWI's marketing arm The Woolmark Company continues its relationship with American luxury fashion brand and cultural icon Ralph Lauren, with initiatives such as educating its store managers about wool.

TRAINING SEMINAR FOR RALPH LAUREN STORE MANAGERS

Following the success of a training and educational session to members of Ralph Lauren staff last year, The Woolmark Company was again invited to be part of the Autumn 2018 Polo Ralph Lauren seasonal training.

A training seminar by AWI Country Manager for Italy, Francesco Magri, was held in Dubai in October for about 50 of Ralph Lauren's store managers from Russia, Middle East and Morocco. The seminar provided the managers with insights into the benefits, properties and innovations related to Merino wool – and they were shown various samples of material, from raw wool to Cool Wool and Optim fabrics.

Additionally, the managers were 'transported' to an Australia wool-growing property using virtual reality headsets, so they could experience first-hand the farming practices taking place.

THE ULTIMATE IN CUSTOMISATION WITH WOOL

As part of the continued rollout of its customisable range in the USA, Ralph Lauren now produces 100% Australian Merino wool crewneck sweaters, cardigans, beanies and scarves – for men and women.

The American public can design their own garment and have Ralph Lauren custom-manufacture the product with state-of-the-art knitting technology. With a wide choice of colours, designs, fonts, and iconic Ralph Lauren graphics, there are more than a million ways for consumers to make their own unique wool product. **B**

MORE INFORMATION
www.ralphlauren.com/custom



Ralph Lauren can produce 100% Australian Merino wool beanies and other apparel in a million different design combinations.



Ralph Lauren's store managers from Russia, Middle-East and Morocco who attended an AWI training seminar in Dubai about the latest trends and innovations in wool.

WOOL EDUCATION FOR MARELLA STAFF AND VIP CUSTOMERS

The Woolmark Company and Italian womenswear brand Marella organised wool education sessions in Marella's flagship stores, targeting the brand's most loyal consumers.



AWI held wool education sessions for Marella staff and VIP clients in Italy.

Part of the Max Mara group, Italian womenswear brand Marella offers its customers glamorous, contemporary and quality apparel products.

The Woolmark Company and Marella joined forces to develop an educational program for Marella staff and the brand's VIP customers, with the aim of increasing their awareness of Merino wool's benefits – and support the launch of the brand's Autumn/Winter 2018 knitwear collection.

Five events were organised in the most iconic of Marella's flagship stores across Italy – Milan, Naples, Rome, Bologna and Turin – with about 70-100 VIP customers attending each event.

To support the events, a set of promotional banners and information kits (including a customised wool care guide) were produced for the VIP guests. Feedback about the events from customers was very positive with them having a deeper connection with and confidence in wool. **B**

MORE INFORMATION
www.marella.com

STUDENT EDUCATION FROM MELBOURNE TO THE MILLS OF ITALY

To encourage young Australian textile and fashion entrepreneurs into the wool industry, AWI's marketing arm The Woolmark Company has partnered with Monash University to create a wool industry specific study path for students.



Monash University students **Zoe Alexiades** (left) and **Lorena Stents** (centre) on an industry tour visiting the Zegna Baruffa Lane Borgosesia textile factory in Italy, accompanied by **Sarah Monterossi** (right) of The Woolmark Company's Milan office.

The Woolmark Company Prato Study Scholarship provides an opportunity for two Monash University students each year to undertake a study tour via Monash University's Prato Centre in northern Italy.

As part of their program, scholarship recipients visit the Textile Museum in Prato and experience a tailored tour of the textile industry led by representatives from The Woolmark Company's Milan office. The scholarship incorporates the opportunity for recipients to meet with industry leaders, attend trade shows and network with specialist curators, designers and manufacturers in the wool and textile industries.

Prior to their departure for Italy, scholarship recipients are also invited to visit woolgrowers in Victoria to understand the initial stage in the wool pipeline.

A special feature of this scholarship is that it is open to both undergraduate and postgraduate coursework students from Monash University's faculties of Art, Design and Architecture; and Arts and the Business School, so there is the opportunity for students to engage with the textile industry from different perspectives.

"Education programs are central to the work of The Woolmark Company. By supporting Monash students to have an overseas study experience in Italy and by introducing them to our extensive network of leading industry partners, we hope to stimulate their interest, as future professionals and consumers, and highlight the pivotal role the Australian wool industry plays in the global textile and fashion industries," said AWI General Manager, Processing Innovation & Education Extension, Julie Davies.

Zoe Alexiades (Bachelor of Communication Design) and Lorena Stents (Bachelor of Law and Commerce) were awarded the 2018 scholarship and visited a wool-growing property in Geelong, Victoria, before traveling to Italy to undertake their studies at Monash University's Prato Centre.

ZOE ALEXIADES

Zoe said that the visit to the wool-growing property allowed her to understand the first stage of the long process from farm to fashion and gave her a new appreciation of the wool industry and the benefits of wool.

"I found the industry components of the scholarship absolutely invaluable. Visiting the farm and wool shed, as well as the wool store and ABMT Textiles in Victoria, all prior to going overseas gave us a basic, but solid level of knowledge to go off, before heading to Prato and then Milan," Zoe said.

Through her studies at Prato, Zoe learnt further about the rich history of the textile industry and in particular the Zenga Baruffa Group's work with wool and the textile industry.

"I have been able to see an entirely new side and perspective of the fashion and textile industries I never would have known about if it weren't for this opportunity," she said.

"Although I have always been interested in natural materials, such as wool, cotton, silk and linen, I feel as though now I am better informed and have an insight that perhaps not many others do. This will affect the way I design and also the way I purchase and consume, as I am very conscious of sustainability and ensuring my own clothing and designs don't end up in landfill, creating further issues and pollution on our earth."

LORENA STENTS

Lorena too, found the study tour experience invaluable, explaining that innovation in the wool industry, both on farm and in the textile mills, was evolving.

"I was interested to learn that the wool and textile industries are moving more and more into the market for activewear, as we were able to sample new fabrics for different sporting pursuits," Lorena said.

"The innovation was evident when we were sampling the fabrics, as we touched fabrics that were sensitive to the body temperature, and even fabrics that changed colour depending on temperature. These fabrics are intended to be used by those exercising outdoors in extreme conditions to facilitate easier monitoring of body temperature.

"This is an example of the innovation needed to maintain market competitiveness in the 21st century, and to continue to engage the next generation of consumers. This innovation was also evident when we visited the woolgrowers in Geelong. We learned that the woolgrowers need to be adaptable to new changes and standards being implemented, which requires them to be proactive with the welfare of the sheep." **E**



Isabella Snelson's womenswear collection, sponsored by AWI, allowed her to establish her design aesthetic through a combination of both knitted and woven wool textiles.



YOUNG DESIGNER EXCELS WITH WOOL

A spectacular collection showcasing the versatility of wool has been created by graduate Isabella Snelson, from the BA (Hons) fashion and textile design program at University of Technology Sydney (UTS), thanks to a sponsorship from AWI.

AWI partnered with Sydney-based Calcoup Knitwear to sponsor Isabella as part of her honours studies at UTS last year. The aim of the sponsorship was to educate her about the natural benefits of using Australian wool in her designs – and Isabella confirms she has gained a deeper understanding of the value of the natural fibre.



"I think there is something to say about valuing a natural fibre – understanding where it comes from, what its potential is and you can then respect but also enhance and innovate with that fibre," Isabella said.

"Wool holds so much potential and can be used in so many different ways – within one fibre there is so much movement which is super exciting to someone that is passionate about textiles like me."

Isabella's final collection has been very well received and was even hand-picked to be showcased at the National Graduate Showcase earlier this month at the Virgin Australia Melbourne Fashion Festival.

The collection features Australian wool in structurally intricate oversized suiting, conceptual layers of jacquard knits and shear hand-knitted next-to-skin pieces. Isabella said the jacquard knits incorporated through the partnership with AWI and Calcoup played a big part in the collection.

"I truly believe that the collection was enhanced by the addition of the machine engineered jacquard knits, and the final outcome was very different to anything I could have ever imagined!"

The sponsorship by AWI also enabled Isabella to visit a wool-growing property in NSW, attend AWI's Naturally Inspiring seminar in Sydney, and also visit AWI's Wool Resource Centre in Hong Kong during a trip to the region with UTS.

"The AWI Naturally Inspiring Seminar alongside the farm visit were both great experiences," Isabella said.

"Aside from learning about the fibre and how it is produced from a raw material, I found it particularly interesting to learn about where the fabrics are now being used in high fashion. Sports brands such as Nike and adidas using wool was extremely surprising to me. Further, whilst on a trip to Hong Kong with UTS alongside AWI, I saw the use of wool in extremely innovative ways – such as 100% waterproof fabrics."

Isabella says she has always been a huge supporter of the Australian wool industry

"As a young designer that specialises in knitwear and tailoring, wool is such an essential part of my textiles. Whether it being for my own design practice or working for another designer I would see an association with AWI as essential.

"It is so important as an Australian designer to support AWI and reciprocate the support that they give to so many young designers. It is through support such as the sponsorship from AWI that allows young designers to realise their potential."

SETTING SAIL FOR FASHION SUCCESS

With twenty-five years-experience in graphic and jewellery design, Valeska Dominguez has turned her hand to fashion design – and she already has wind in her sails after winning the Woolmark Sponsorship Prize at Ultimo TAFE in Sydney.

The 2018 Woolmark Sponsorship Prize enabled student Valeska Dominguez at the Ultimo TAFE Fashion Design Studio in Sydney to access resources and knowledge to help her use Australian wool in her final collection.

By supporting programs like this, AWI and The Woolmark Company encourage fashion designers to use Merino wool throughout their careers and therefore help support Australian wool's premier place in the fashion industry.

Valeska was supported throughout her final year of studies by being provided with connections, funding, mentorship and industry and fibre information.

“Going into The Woolmark Company office in Sydney and meeting with the team there was really pivotal for me in designing this collection,” Valeska said.

“I was exposed to a wide range of information and could view The Wool Lab which is compiled by The Woolmark Company and displays the current season's best wool fabrics from around the world.”

This exposure to the unique features of Australian Merino wool ignited her passion for sustainable fashion designed and produced in Australia – and her final collection created for her label VALESKA embodies this passion. It features 100% Merino wool knit jersey dresses, 100% Merino superfine wool suiting, 100% Merino wool crepe skirts as well as a range of wool/silk and wool/cashmere blends.

The collection has already attracted praise from throughout the industry. Valeska was awarded dux of her year at the Ultimo TAFE Fashion Design Studio and her collection will be showcased at Mercedes Benz Fashion Week Australia in May. Furthermore, the Powerhouse Museum (MAAS) has chosen to exhibit two of the VALESKA pieces as part of an 'Australia's emerging fashion designers' exhibition from March through July.

INSPIRED BY THE SYDNEY OPERA HOUSE

Focussed on designing a quintessentially Australian luxury brand, the VALESKA 2019 collection showcases Australian Merino wool with its structural influences derived from the iconic architecture of the Sydney Opera House.

Valeska explained that she was drawn to the Sydney Opera House as, like Merino wool, it holds an important place in Australia's identity and the design draws on nature as inspiration.

“As a Sydneysider, I have grown up alongside this magnificent building and have been intrigued by Jorn Utzon's architectural approach. In designing the iconic building, Utzon turned to nature, designing the building to mimic the growth patterns of nature,” Valeska explained.

“As a designer, the interior is every bit as inspiring to me as the exterior. I love the bold use of colour, most notably the famous purple staircase in the Northern Foyer, and the bold red used to upholster the Concert Hall seats. What is most intriguing is that these iconic interiors have all been produced with Australian Merino wool.”

Valeska went on to research the place of Merino wool in Australia's identity and found a rich history. “I believe Merino wool is our nation's greatest natural resource,” enthused Valeska.





FROM COAT TO BACKPACK TO SLEEPING BAG

Jackets turning into backpacks, coats becoming sleeping bags and a skirt transforming into an umbrella. The winners from 2018's Wool4School design competition were chosen for their outstanding multi-function design concepts.

The theme of the 2018 edition of Wool4School challenged students to think beyond a single-use garment and asked them to create a multifunctional design – and the entries certainly pushed the boundaries of the way clothing, and wool, can be used.

“Students came up with some interesting ideas from jackets that turn into sleeping bags and hats that turn into purses whilst exploring some of wool’s new innovations,” said AWI Project Manager of Education and Extension, Ashley Hollis. “Congratulations to all students who entered the 2018 awards. It showcased the broad emerging design talent throughout Australia and I encourage them to enter again this year.”

The Year 10 winner was Cecilia Cheah from GRC Penshurst Girls Campus in NSW. Her design stood out to judging panel member and leading designer Jonathon Ward for its combination of versatility, functionality and fashion.

“The winning entry by Cecilia Cheah titled ‘the convertible coat’ was outstanding and well thought through in her presentation,” Mr Ward said. “The contemporary design showed versatility through a multi-functional garment utilising the properties of wool across camping and travelling yet remaining fashionable and adventurous with the final design.”

WOOL4SCHOOL GOES FROM STRENGTH TO STRENGTH

Now in its eighth year, Wool4School invites students to think about the versatility of various wool fabrics as part of a creative design of their own.

First launched in 2012, Wool4School is an annual student design competition that has involved more than 85,000 students, not only learning the fundamentals of fashion design but also exploring the benefits and versatility of wool and the fabric it creates.

“The aim of the Wool4School design competition is to teach school-aged students the benefits of Australian wool so that these future designers and consumers understand wool’s benefits and are more likely to use Australian wool as their fibre of choice,” Ms Hollis added.

Open to all Australian school students from

years 7 to 12, the Wool4School competition invites students to design an outfit using a minimum 80% Australian Merino wool. By putting wool into the minds of Australia’s future fashion designers, Wool4School encourages students’ innovative thinking and creative design, in keeping with The Woolmark Company’s tradition of fostering the education of the future generation.

On the back of the success of Wool4School in Australia, AWI now also runs the student design competition in the key markets of the United Kingdom, Hong Kong and Italy. **B**

MORE INFORMATION

For details of all the 2018 winners and how to enter the 2019 competition, visit www.wool4school.com

ENTER THE 2019 WOOL4SCHOOL COMPETITION

Registrations are now open for the **Australian edition of the 2019 Wool4School competition.**

This year, students are asked to design an outfit that embraces the use of technology to enhance garment performance or function, such as wool footwear that tracks your run.

There are once again a host of amazing prizes on offer.

HOW TO GET INVOLVED

WOOLGROWERS AND PARENTS

Contact your local high school and encourage them to get involved in the Wool4School program. Information for schools and teachers is available at www.wool4school.com

YEAR 7-12 TEACHERS

Simply register your school and year groups at www.wool4school.com to receive a free wool fabric pack and resource kit for the classroom.

YEAR 7-12 STUDENTS

Learn more about the exciting competition at www.wool4school.com and talk to your teacher about getting involved.

KEY DATES

Registrations close: 30 May 2019

Submissions close: 25 July 2019

Announcement of winners: 22 August 2019



Wool4School Year 10 winner Cecilia Cheah from Georges River College, Penshurst Girls Campus in NSW had her 2018 winning design turned into reality by leading Australian fashion designer Jonathan Ward. Cecilia’s winning design includes a unisex coat, which can be transformed into both a backpack and sleeping bag – perfect for the young adventurer on a camping trip.

The 2018 Wool Runway winning design by Nishant Raj from the National Institute of Design in Ahmedabad, during a photoshoot undertaken by the competition's social media partner *Vogue India* – the images achieved more than half a million impressions from fans.



CONNECTING INDIAN FASHION STUDENTS WITH WOOL

AWI's Wool Runway project continues to educate and inspire the next generation of fashion designers in India about the natural benefits of Australian Merino wool.

Hundreds of tertiary fashion students from fashion university campuses across India last year learned about the benefits of Australian Merino wool, by taking part in the third annual edition of the Wool Runway initiative.

The education program, run by AWI's subsidiary The Woolmark Company, gives students the opportunity to design an outfit made from Australian Merino wool and connect with key representatives from the textile and fashion industry.

Undergraduate and postgraduate students from 18 campuses of India's three main fashion universities – National Institute of Fashion Technology, Pearl Academy and the National Institute of Design – took part in the 2018 program, utilising AWI's Wool Appreciation Course (WAC) and learning about the eco-credentials and natural benefits of the fibre.

This year the competition witnessed a digital adaptation, with the reach out, WAC and submissions conducted digitally, which resulted in an increase in submissions from last year as well as an easily accessible platform.

Nearly 200 students submitted their sketched designs to enter the competition, with 15 making it to the final round. Finalists then had two months to make a complete wool ensemble comprising a maximum of three pieces using a minimum of 80% Merino wool.

The 15 finalists received a mentoring session with two industry VIPs: established fashion curator Gautam Vazirani, and founder of wool shoe brand Neeman's, Taran Chhabra.

The designs created by the students were displayed as installations at the final event in Mumbai, giving the audience a first-hand look at the versatility of Merino wool.

The designs were judged by a panel of Indian wool industry experts including the Director of Product at Raymond Fine Fabrics, Kishor Bhatia; *Vogue* Associate Fashion Features Director, Priyanka Khanna; fashion designer Reena Singh; Creative Head of Louis Philippe and Luxor, Partha Sinha; Creative Head of Goodearth, Deepshika Khanna; and International Trainer in Luxury & Retail, Rajat Bhattacharya. The 15 finalists received personalised feedback from the judges along with expert industry insights.

The winners were presented with their awards by the Australian Consulate-General in Mumbai, Tony Huber, which reinforced AWI's relationship with government.

AWI Country Manager for India, Dilip Gianchandani, said Wool Runway aims to raise awareness of Australian Merino wool and inspire emerging fashion designers to work with Merino wool.

"The designs were so unique and made with so much character, it's unbelievable that these are students and not professionals," he said. "The maturity they showed in working with Merino wool is astounding. Our constant yearning is to encourage talent and give them a platform in the industry while working with Merino wool."

Judge Kishor Bhatia of Raymond Fine Fabrics added: "I am really excited to see such unbelievable young talent. I was extremely heartened to see the students' hard work and imagination integrate into a great product synonymous with today's contemporary fashion."

As well as having a representative on the judging panel, *Vogue India* undertook a photoshoot of the winning design and was also the competition's social media partner, posting images to its official Instagram channel.

Wool Runway finalists (front) and the **judging panel** (back) at the award ceremony in Mumbai, India.



DEFYING THE

With so much of eastern Australia still in drought, how do woolgrowers Charlie and Anne Maslin from the Monaro of NSW still have full ground cover, flowing streams and no need to back up the feed truck?



Charlie Maslin: "Especially in dry times like we have experienced in the past 18 months, we need to be holding as much moisture in the soil as we can." At Gunningrah, the main focus has been to lift ground cover, improve the water cycle of the country so when it rains there is very little run off.

Charlie and Anne Maslin own 'Gunningrah', 20 km north-west of Bombala in the NSW Southern Tablelands. On the 4200-hectare property, which comprises predominantly native grasslands, they run medium wool Merinos and cattle.

Gunningrah has been managed by the Maslin family for more than 100 years. Charlie and Anne took on its management in 1987, which was when they observed significant annual variations in its rainfall – and profit. While annual rainfall averages 550mm, it has varied from 250mm to 1000mm over the past century.

Examination later revealed the significant impact of low rainfall on the cost of production: wool production costs could double when existing pastures were insufficient, due to supplementary feeding or agistment costs. Furthermore, a mid-1990s third-party analysis of their pastures revealed alarmingly lower levels of ground cover (more than 30% bare ground) than the Maslins had perceived.

After managing the property for almost a decade, Charlie and Anne realised that Gunningrah was gradually facing ecological deterioration and profitability was becoming increasingly variable.

Crucially, it became clear to them that effective management of inconsistent rainfall was a key factor in maintaining profitability. While they couldn't change how much rain falls, they could change how to manage the rain they are lucky enough to receive.

So the Maslins changed their mindset to focus on the health of the land, which has resulted in the Maslins managing poorer rainfall years more effectively and not over-using pastures in abundant years.

Maximising the retention of available rainfall and striving for much improved ground cover has delivered more consistent profits on reduced inputs. In addition, erosion is being controlled, weed invasion has reduced, stock are healthier and management is more flexible.

Charlie sums up their new approach: "Rather than us dictating to the land what stock it has to carry, we try to look after the land, evaluate what it has to offer and then attempt to stock it accordingly."



A photo taken last month of a **leaky weir** on Gunningrah. The creek corridors where they have put the weirs usually remain pretty lush, no matter what the season.

MAINTAINING GROUND COVER

Charlie and Anne's focus has been to lift ground cover and improve the water cycle of their country so that when it gets rain there's very little run off. Over the past 20 years, they have increased ground cover levels from the mid-60% level up to about 90%.

"Especially in dry times like we have experienced in the past 18 months, we need to be holding as much moisture in the soil as we can for the plants to grow and the animals to eat, and then for us to make a profit," Charlie said.

"By building up the ground cover over the years, we've increased the infiltration of water into the soil and improved the organic matter which help limit moisture evaporation – and once we've started to get that happening we've been able to reduce the runoff from the property quite considerably.

"Growing periods have extended as the water is now held in the pasture for longer, rather than running off straight into the dams.

"By greater water infiltration and retention in pastures, we are making much more of the rainfall that we do receive."

INTRODUCTION OF LEAKY WEIRS

The main source of water inflow to the property is the Cambalong Creek, which flows through the property for 16km. Three smaller streams also flow into the farm.

The Maslins found that using the techniques of Natural Sequence Farming – constructing 'leaky weirs' across their creeks and gullies – the health of their watercourses and adjacent pasture could be significantly restored. Since the mid-1990s, the Maslins have constructed a number of small leaky weirs across Gunningrah's streambeds and gullies.

DROUGHT

"Leaky weirs serve to slow down the rate of runoff through water courses, especially after rain, converting intermittent torrents into more constant gently flowing streams," Anne explained.

"The weirs slow the flow of water, creating a chain of ponds similar to what existed before white man. Sediment is deposited, gradually rebuilding the eroded creek bed. The weirs allow time for water to percolate into the soil layers and rehydrate the landscape and water table. The rich sediment is retained in the landscape, rather than flowing straight out to sea.

"We now have a healthier creek system, it acts like a sponge, absorbing rain as it falls, and conserving water for the inevitable dry years."

ROTATIONAL GRAZING OF LARGER MOBS



The Maslins rotationally graze their sheep in large mobs in a 10-15 paddock cycle – which enables pasture to regenerate, better stock health and more efficient management with lower labour costs.

The Maslins believed that grazing could be profitable and sustainable by shifting the focus from maintaining a set level of stocking to varying the stocking level according to the productive potential of the pasture.

They implemented time-controlled rotational grazing, matching stock numbers to land carrying capacity. Stock are grazed at a high density for short periods of time (about five to seven days) in paddocks (of about 100 hectares each) as per the determined carrying capacity, followed by sufficient recovery periods to allow pasture to regenerate.

"We put sheep into mobs of 1,500 to about 2,000 and the cattle into mobs of about 200 to 300 cows, and we move those around so that each group will have 10 to 15 paddocks in the cycle," Charlie said.

"The paddocks that are not being grazed have a chance to grow, to recover, and

there's a chance for seeds that are there to germinate and grow – and that has been one of the largest things that has lifted our profitability. Grass diversity, particularly native species, increased quite quickly after the establishment of rotational grazing."

Charlie also says stock rotation provides an early warning system of land recovery. "If the pasture in the first paddocks is not fully recovered after a rotation cycle has been completed, an informed decision can be made on stocking rates. With set stocking, it was only when stock condition started to deteriorate that pasture problems were identified."

Other benefits the Maslins have experienced include improvements in stock health. "The worm burden has been substantially reduced by the continual stock movement and the resting of pastures over the summer months. Animals are now only drenched once or twice annually, as opposed to four times a year previously. Twin lambing pregnancies are 20% higher than two decades ago and stock classing is more consistent."

LOWER COST OF PRODUCTION

In terms of inputs, Charlie says larger mobs enable more efficient management. Movement, drenching and stock checks now require less human input. Stock are becoming easier to handle with more even temperaments due to greater human exposure.

"A lot of people think that because you're moving stock quite regularly with rotational grazing that your labour input goes up – but that's not the case," Charlie said. "We've kept detailed records of how we've allocated time, and since we've been doing rotational grazing, our time doing stock work is down about 40%. It used to take just more than 300 people days a year to do all the stock work, now we do it in about 180/200 days.

"It's because, for instance, when we join the sheep there are two mobs to join whereas before we had probably 30, when you crutch them we had 30 mobs to bring in whereas now we have two, and when you're checking for flies you can check two mobs in the space of a couple of hours whereas before it would take you two or three days.

"Labour is the most significant cost you have in running a property and we're able to run our stock with less labour. Since we've changed our grazing management, we've had a lot more time to do other developments, such as plant trees, new fencing work and put reticulation schemes in."

CHANGES TO INFRASTRUCTURE

An extensive capital outlay was needed in implementing a new water reticulation scheme as the water cycle slowed down and dams could not be relied upon. All troughs are gravity-fed, so no fuel is required for pumping. Charlie points out: "While costly, establishing the troughing system is ultimately much more water efficient than dams. There is now less evaporation, wastage, land damage, and the stock have access to cleaner water."

Additional expenditure was required for fencing and other necessary structural changes. Whilst these new capital costs were significant, they did not restrict implementation of the new methods. "We implemented the grazing first, and made the necessary structural changes once we saw what was needed."

A HEALING PROCESS

The land has been a major winner as a result of the changed water management and grazing practices on Gunningrah, with positive outcomes in relation to water use efficiency, soil organic content, vegetation cover, and minimising erosion by wind and runoff.

Grazing changes and increased ground cover have assisted in reducing weed problems. Water courses are now only exposed to livestock activity for short periods of time, which protects banks from damage and further allows sediment build up and vegetation a chance to germinate. The Maslins have also undertaken broad planting of tree species found to thrive in the region.

Improvements to soil and water quality strongly support increased biodiversity. In addition to increases in pasture diversity (which improves the health of livestock), there is increased birdlife, and even platypuses are now regularly observed in the Cambalong Creek.

Perhaps most importantly – aside from the very welcome increased profitability, which is a combination of better utilisation of rainfall and good commodity prices – the Maslins have found that the changes they have adopted have freed up more time for them to do other activities they enjoy; the extra family time in particular has been greatly appreciated.

■

MORE INFORMATION:

Charlie Maslin: gunningrah@gmail.com.
For more information, view a case study at www.soilsforlife.org.au/case-studies/gunningrah



Community fencing working bee to erect a new fence line to provide more reliable power to the existing Tallangatta Community Dog Fence.

"NOW IT IS RARE TO HEAR DOGS, MAYBE THREE TIMES IN A YEAR. I HAVE INCREASED MY EWE NUMBERS DUE TO THIS PROGRAM WHICH WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE SUPPLY OF BAITS DUE TO COST. MY PROPERTY FRONTS ONTO STATE FOREST AND WABBA WILDERNESS NATIONAL PARK SO THIS PUTS MY STOCK AT THE FIRST POINT OF ANY ATTACK."

PARTICIPANT IN THE WISES CREEK - TALGARNO WILD DOG COMMUNITY BAITING PROGRAM

VICTORIAN COMMUNITY WILD DOG CONTROL ACTIVITY

Woolgrowers in Victoria continue to work together to minimise wild dog attacks.



Meeting held in Whitfield which resulted in the forming of a new wild dog control group: The Cheshunt Ryans Creek Community Wild Dog Control Group.



Trap and canid pest ejector (CPE) training with the Dargo Community Group.

"WE ARE ABLE TO ROTATIONALLY GRAZE AGAIN THEREFORE OUR DRENCHING PROGRAM IS FAR MORE EFFECTIVE. OUR SHEEP ARE HEALTHIER AND OUR PASTURES ARE STARTING TO IMPROVE. THIS ALONE WILL HELP US TO INCREASE OUR NUMBERS AS WELL AS THE INCREASED AREA THAT WE ARE ABLE TO GRAZE OWING TO THE LACK OF PREDATOR ATTACKS."

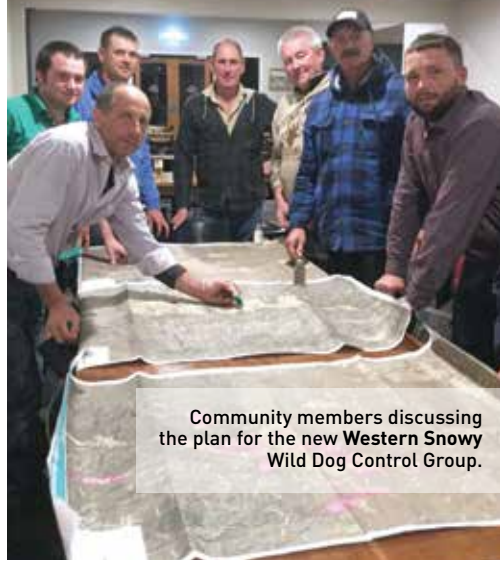
PARTICIPANT IN THE SWIFTS CREEK WILD DOG CONTROL GROUP



Gallagher fencing extension day at Mudgegonga.



Clifton Creek Landcare fencing and canid pest ejector (CPE) demonstration.



Community members discussing the plan for the new Western Snowy Wild Dog Control Group.

AWI FUNDING AVAILABLE

Funding is available under AWI's Australia-wide 'Community Wild Dog Control Initiative' to individual groups to undertake wild dog control activities. Funding can be directed by groups to fill gaps they have identified in their control plans. **Particular emphasis is placed on assisting groups to become self-sufficient in the longer term.**

To apply, groups should download and complete the application form at www.wool.com/wilddogs and submit it along with a plan, a map and a project budget to wilddogs@wool.com.

Applications are open to new groups as well as those groups that have previously received funding from AWI.

If you need clarification or assistance please contact AWI Program Manager Vertebrate Pests, Ian Evans, on 0427 773 005 or ian.evans@wool.com



Planning session with members of the Delegate River Group.



Predator and exclusion fencing workshop with landholders at Ensay/Swifts Creek.



AWI'S BAITING PROGRAM "GOT US OVER THE HURDLE"

The lambing percentage of woolgrower **Ian Middleton** at Cudgewa in Victoria has risen to 125% following the dramatic drop in sheep losses from wild dog predation. PHOTO: Louise Middleton

Woolgrower Ian Middleton who farms in north-east Victoria doubts he would still be farming if it wasn't for the combination of aerial baiting and AWI's support of community baiting programs.

"Without subsidised baiting," says the Cudgewa farmer, "we would not be in sheep, and we probably wouldn't still be here – we would have been slowly going broke."

Ian and his wife, Louise, moved from Queensland to Cudgewa four years ago. They immediately stocked their newly purchased, 900 acre property with cattle, but soon realised it was better suited to sheep.

"Everyone said we were crazy, and sure enough, that year we lost a third of our ewes," says Ian. "We knew we couldn't sustain those kind of losses."

A local farmer suggested they join the Cudgewa BestLamb/BestWool Group which was running an AWI-funded community baiting program.

"It was fortunate timing, because although I myself had started baiting, we were so stretched I could only do it minimally. The program let us put down the right amount of baits for the size of the property, which was more than we could ever have afforded."

Community efforts were backed up by the Department of Environment, Land, Water and Planning's (DELWP) aerial baiting program. "Within one year, we went from hearing dogs every night, to hearing them every couple of weeks when they were moving through. Now, it will only be a couple of times a year."

Importantly, their lambing percentage has risen to 125% (a good statistic given the large number of maidens in the flock) and losses have dropped dramatically.

"Before, we were losing calves, ewes and lambs," says Ian. "We still have losses but it's hard to pin it on a dog – it's not the mass slaughter like it was."

This turnaround has given the couple confidence to improve the property (which was very run-down) and to build their sheep numbers to 1,000 ewes.

Ian is improving all their internal fences, and keeps up with his own baiting. He is concerned, however, that without AWI's ongoing funding for baits, other members of the community are not going to maintain the same effort.

"My biggest fear is that if others drop out we will lose that support network of baiting around us."

MORE INFORMATION:

View a DELWP video of the Victorian wild dog community program, including footage of local AWI-funded wild dog control managers Tim Enshaw and Lucy-anne Cobby and landholders including Ian and Louise Middleton, on YouTube at <https://youtu.be/0PZdhLENQ6g>

AWI-FUNDED WILD DOG COORDINATOR IN SOUTH AUSTRALIA

AWI recently began co-funding a wild dog coordinator position in South Australia, to help landholders and communities in the state work together to combat wild dog attacks.



South Australia state wild dog coordinator **Marty Bower**.

The wild dog coordinator position aims to help producers and other key stakeholders collaborate to reduce the impact of devastating livestock predation by wild dogs in the state – and therefore improve on-farm productivity, rural community wellbeing and rural biodiversity.

The position also aims to help coordinate on-ground wild dog control activities. This is vital but can be challenging for landholders without the external help provided by an independent coordinator.

Marty Bower is the wild dog coordinator. He commenced in the role in March 2017, and is based with AWI project partner, the Department of Primary Industries and Regions SA. AWI's funding for the role began in December 2018.

The South Australia wild dog coordinator position complements the AWI-funded wild dog coordinators currently operating in all other mainland states (see box right).

The coordinators use a 'nil-tenure landscape level' approach with local communities that highlights the benefit of focusing on the 'common problem' rather than attributing ownership of the wild dog problem to individual land managers.

This approach encourages good working relationships between private and public land managers. More importantly, it can have a positive impact on the emotional well-being of farmers in the area who now feel that something positive is being done to address the constant financial and emotional impact of wild dogs.

Marty is a South Australian local, having grown up in the Adelaide Hills and Barossa. After completing studies in natural resource management, he gained work experience in Tasmania, NSW and the Northern Territory, before returning to his native South Australia to take up the wild dog coordinator position.

"The role aims to increase participation in wild dog control among land managers – be they pastoralists, Aboriginal groups, conservation

groups or mining companies – and other stakeholders," Marty said.

"I am also there to implement wild dog control programs, provide effective regional planning across wild dog affected areas, and provide improved awareness, surveillance, reporting and monitoring of wild dog activity.

"An example of the type of thing I do is overseeing the on-ground implementation of the four-year SA Dog Trapper program including supervision of the trappers. The program, funded by the State government, Natural Resource Management Boards, the Sheep Industry Fund and AWI, is designed to provide land managers with professional wild dog trapping services to help them reduce wild dog impacts on their properties, south of the Dog Fence."

The program has so far controlled 135 dogs across 32 properties since commencing in July 2018. The trappers have additionally undertaken 210 hours of 'on the job' training with land managers and their staff, to increase their capacity to control dogs on their properties.

Marty said the true measure of success of the program was not just in the number of animals controlled, but in the reduction of impacts from wild dogs experienced by producers.

"The reports coming through from land managers are showing a marked reduction in the localised impacts of wild dogs," he said. "To have these results within the first five months of a four-year program is very encouraging.

"The training the trappers are providing to land managers and their staff in particular is really adding value to the program. A trapper isn't always going to be able to drop everything to head straight to a property to deal with a dog causing problems, so upskilling land managers to take action themselves when the need arises is a great outcome. Whenever land managers in these impacted areas get together, the first things they ask each other are 'have you had any

rain' and 'have you had any dogs'. One of these issues is beyond our control, but the other is something we can all work together to manage."

Marty says two emerging wild dog impacted areas have recently been identified.

"Land managers in the Moonabie/Munyaroo area (Eyre Peninsula) are interested in forming a wild dog management group following increased stock attacks over the past couple of years. The local NRM Officer and I recently held a workshop at Moonabie Station attended by 12 land managers.

"The other emerging area is in the Mid North around Burra. The local NRM group has commissioned the development of a management plan, with a workshop planned for early 2019. I'll support the consultation and drafting of the plan." **B**

AUSTRALIA-WIDE AWI-FUNDED WILD DOG COORDINATORS

AWI funds and co-funds wild dog coordinators in each Australian mainland state to help landholders and communities work together – locally and across shires – to combat wild dog attacks.

- **South Australia:**
Marty Bower 0419 835 120
- **Queensland (south-west):**
Skyela Kruger 0429 232 089
- **Queensland (central-west):**
Kristy Waddell 0437 116 875
- **NSW (north-east):**
Dave Worsley 0429 638 078
- **NSW (western):**
Bruce Duncan 0409 515 471
- **Victoria (Gippsland):**
Brian Dowley 0408 436 600 and
Lucy-anne Cobby 0488 712 616
(shared position)
- **Victoria (north-east):**
Michael Freeman 0477 358 061
- **Western Australia:**
Meja Aldrich 0417 622 780

AWI TRAINING IMPROVES PRODUCTIVITY!

AWI-funded research demonstrates that both wool production and reproductive efficiency can be improved substantially and at relatively low cost through adoption of targeted management practices. Take up the opportunity now with these AWI-funded training courses!

LIFETIME EWE MANAGEMENT COURSE

The Lifetime Ewe Management (LTEM) course, supported by AWI, aims to increase producers' understanding of the influence of ewe nutrition and management on overall reproduction rates and lamb and ewe survival. Producers develop the skills to manage their ewes to achieve condition score targets and explore the economics of supplementary feeding and pasture

management to review stocking rates.

LTEM groups, typically comprising 5-7 producers, meet six times in the sheep calendar during a period of 12 months. The course is very hands-on, being based in the sheep yards, shearing sheds and paddocks of participating woolgrowers, which enables participants to share and learn from one another.

WINNING WITH WEANERS WORKSHOP

This one-day workshop is aimed at lifting lifetime performance from Merino ewes through improved management of their weaners. It assists participants in understanding the key issues affecting weaner survival and performance and guides them through developing targets for growth to achieve a minimum weaner survival rate of 95% from weaning to one year of age. The workshops discuss factors that contribute to weaner mortality and illthrift, and provides practical pathways for improving performance from this group of sheep.

PICKING PERFORMER EWES WORKSHOP

All flocks have ewes that perform better than others, affording woolgrowers the opportunity to make massive improvement through within-flock selection decisions. This one-day workshop is aimed at lifting lifetime performance from commercial self-replacing Merino flocks by recognising and placing importance on the total lifetime productivity potential and value of their Merino ewes (including fleece, meat and surplus stock).

RAMPING UP REPRO WORKSHOP

AWI has teamed up with Zoetis to bring you a hands-on one-day workshop focused on improving ram performance and working longevity in commercial sheep enterprises. The workshop is designed to increase the skill of producers across the key components of ram performance and impacts on overall breeding enterprise performance, including anatomy, physiology, spermatogenesis, metabolic demands, health, disease and biosecurity and the financial impact of the ram team.

MORE INFORMATION

LTEM course: www.wool.com/LTEM
Workshops: www.wool.com/workshops

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FLYSTRIKE TREATMENTS DURING DROUGHT



Monitoring for flystrike should identify strikes before sheep suffer. This relies on both thoroughness and frequency of inspection.

Experienced producers know that flystrike doesn't go away in a drought; isolated rainfall events can still provide the conditions that suit body strike and breech strike particularly when breech wrinkle combines with urine stain and/or dags.

Fewer rainfall events, shorter drier grass and lower humidity do decrease the incidence of body strike, and breech strike, prompting the question: "Should I apply a preventative treatment?"

Such treatments are rarely needed if:

- the sheep have a low susceptibility to strike during periods of high fly activity
- there are few periods of high fly activity and they are generally very short
- the mob number is small enough for strikes to be identified early and treated individually.

However, as droughts invariably break, sometimes with flooding rains that can quickly isolate mobs of sheep or make access difficult, be prepared to check and treat ahead of a likely high risk weather event.

BODY STRIKE

Jetting or spray-on body strike preventative treatments involve chemical and labour costs that may be better diverted to supplementary feed during a drought. But before foregoing such a treatment consider the susceptibility of the sheep and the later labour requirements.

Will labour resources be available to:

- monitor sheep more frequently, particularly after each decent rainfall event, and

b) treat individual struck sheep?

Will few or many of your sheep be affected with fleece rot or dermo (dermatophilus or lumpy wool) from the following causes, after sporadic rain?

- Creamier/yellow wool contains a higher proportion of suint (sweat) that holds moisture.
- Poor back and shoulder conformation that allows water to stay on the skin longer.
- A closed fleece structure that traps moisture, preventing the fleece from drying rapidly.
- Handling wet sheep.

Shearing time should also be considered, as longer wool during fly periods increases susceptibility to body strike.

BREECH STRIKE

Drought has a lesser effect on the incidence of breech strike, therefore, if a routine treatment is normally necessary, it will likely be needed during drought.

If your sheep have wrinkly breeches – an average Breech Wrinkle Score of 2 or above – strongly consider choosing future sheep or sires with much plainer breeches.

Dag is the other main offender causing breech strike. Potentially, dag may be reduced in a drought, however when green

feed/weeds grow (there can be several false breaks before the drought truly breaks) it can cause digestive upsets leading to dags.

Less wool on the breech (breech cover) also reduces susceptibility to strike.

Breech wrinkle, dag and breech cover are all heritable and can be included in a breeding program to reduce susceptibility to breech strike.

Aside from a preventative chemical treatment, consider crutching as an alternative to decrease susceptibility to breech strike when there is higher fly activity.

MONITORING

Monitoring should identify strikes before systemic signs appear. This relies on both closeness and frequency of inspection. A paddock drive-through rarely identifies early strikes.

Monitor the amount of stain or dag on breeches and crutch and/or treat before strike becomes a problem.

During high flystrike risk periods, check sheep closely every two to three days.

Close inspection in the paddock can be done in a number of ways:

- Hold the mob along a fence line and walk

FREE TESTS!

ARE YOUR SHEEP BLOWFLIES RESISTANT TO CHEMICALS?

Tests that would cost more than \$3,500 are currently being offered free this flystrike season (2018/2019) by the NSW Department of Primary Industries and jointly funded by AWI.

The tests assess the current level of pesticide resistance in fly populations. The fly test is only for the *Lucilia cuprina* sheep blowfly. Samples are accepted from all over Australia.

WHAT IS BEING TESTED AND WHY?

The following chemicals, which represent all of the major chemical groups, for blowflies are being tested: Spinosad, Imidacloprid, Ivermectin, Cyromazine, Dicyclanil, Diazinon and Diflubenzuron.

This project aims to determine the resistance profiles of blowflies and lice across all wool producing states. It is also gathering baseline data on newer chemicals for future reference.

among the sheep.

- Drift the sheep slowly between you and a fence in both directions.
- Hold the sheep quietly and observe for signs of irritation (biting, scratching, feet stamping) or for a concentration of flies around a sheep.

All of these methods are time consuming (and therefore costly) and as the mob size increases, the chance of missing affected sheep also increases. Effective monitoring may be difficult or impossible in rough terrain and/or timbered paddocks.

While it is ideal to minimise chemical use, consider your ability to monitor effectively; animal welfare takes precedence. If sheep with advanced flystrike are found, increase your frequency of monitoring, and if appropriate, apply a chemical preventative to all susceptible sheep.

Application of a preventative treatment does not remove the need to regularly monitor sheep for flystrike.

TREATING STRUCK SHEEP

1. Shear struck wool and a 5cm barrier ring of clean wool around the strike close to the skin to remove maggots and check for 'maggot runs'.
2. Collect the maggot-infested wool into

CONTACT INFORMATION

If you are interested in supplying NSW DPI researchers with maggots from fly struck sheep or fleeces from lousy sheep, please contact:

Narelle Sales, NSW DPI
Elizabeth Macarthur Agricultural Institute
Email: narelle.sales@dpi.nsw.gov.au
Phone: (02) 4640 6446

For flies, the testing process takes approximately 6–9 weeks. After testing you will receive the results for your flock via phone or email. At the end of the project you will also receive the project results showing how products are performing in your region or state. The project will be completed in mid-2020.

Producer confidentiality will be maintained and all property information will be de-identified. **B**

a maggot-proof (plastic) bag and leave the sealed bag in the sun for a couple of days to kill all maggots.

3. Apply a registered flystrike dressing to the struck area as well as the clean wool ring area to prevent re-strike.
4. Remove severely struck sheep from the mob so they can be closely monitored.
5. Cull all struck sheep because they are very likely to be struck again or next year.

To kill remaining maggots on struck sheep, use the fast-acting chemicals that are registered as flystrike dressings (spinosad, ivermectin, OPs), rather than the long-term preventative products containing dicyclanil or cyromazine, which take up to four days to kill maggots.

You can search for commercial flystrike prevention and treatment products with the FlyBoss 'Lice and Flystrike and Products' tool, including chemical groups, resistance status and withholding periods. Access the tool at www.flyboss.com.au/tools/products **B**

MORE INFORMATION
www.flyboss.com.au

flyboss

PARABOSS: BEST PRACTICE ADVICE FOR MANAGING SHEEP PARASITES

ParaBoss is a suite of three products – LiceBoss, WormBoss and FlyBoss – developed to help sheep producers in the management of lice, worms and blowflies.

The LiceBoss, WormBoss and FlyBoss websites are sources of detailed management information and regional programs that will assist in managing the major parasite risks for sheep. The websites have been developed by expert panels of parasitologists and veterinarians from across Australia.

ParaBoss provides access to the three websites at www.paraboss.com.au.

Subscribe to ParaBoss News, the twice monthly free email newsletter with state outlooks on the current state of sheep parasites as well as feature articles and the quick quiz to test your knowledge of sheep parasites. You can subscribe on the ParaBoss website.

Join us on Facebook at www.facebook.com/paraboss.com.au to see weekly posts on flystrike, lice and worm control.

ParaBoss is funded by AWI and MLA and coordinated by the University of New England with industry oversight. **B**

MORE INFORMATION
www.paraboss.com.au



paraboss

AWI Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

YOUR CHANCE TO INFLUENCE PARASITE RESEARCH

Help us to help you. Australian sheep producers now have the opportunity to influence the way the industry manages parasites such as worms, flies and lice. Simply complete the survey (available at www.wool.com/paraboss) to help researchers address the issues that are currently of greatest importance to you.

Led by a team of researchers from the University of New England, the AWI-funded survey assesses the parasite control measures currently being undertaken by sheep producers across Australia, focusing on worm, liver fluke, blowfly and lice control.

All sheep producers with 100 or more sheep are invited to participate in the survey.

AWI General Manager for Research Dr Jane Littlejohn emphasises the survey results will enable the sheep and wool industry to identify the important parasite management issues impacting producers.

"The results will also be used to update regional benchmarks for parasite control," Dr Littlejohn explained. "The resulting benchmarks will be available to sheep producers to then compare their management practices and, if necessary, make changes to their enterprises."

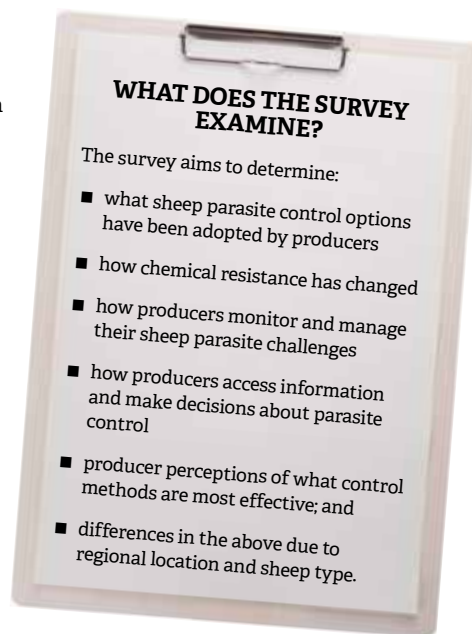
Internal and external parasites combined comprise the major disease problem of Australian sheep, costing the industry an estimated \$715 million per year.

Queensland sheep producer and veterinarian Dr Noel O'Dempsey, who runs fine wool sheep and prime lambs at 'Linallie' in the Traprock country between Texas and Inglewood, is on the Steering Committee for the project and encourages all sheep producers to complete the survey.

"This is a very important survey for producers to complete and it will ultimately help them increase their own business's productivity and profitability," he said.

"By allowing industry to benchmark current parasite control strategies and identify what changes have occurred since the previous survey in 2011, the results will enable producers to refine their on-farm parasite control, be it for worms, flies or lice."

"The survey is available to complete right now. I encourage all producers to take the time to complete it as accurately as possible."



HOW TO GET INVOLVED

All Australian sheep producers with 100 or more sheep are invited to complete the new survey. The survey closes on 9 April, so please complete it soon.

The survey is being conducted online. This means there is no limit to the number of participants and a broad range of Australian sheep producers can be represented in the survey. There are three ways to access the survey:

1. Online via the link on the AWI website at www.wool.com/paraboss. The survey is also available via the ParaBoss websites.
2. Via a link provided in an email sent to sheep producers.
3. Although the survey will be available online, producers who prefer to complete a paper version of the survey can still do so by requesting a version from the

PAST SURVEYS

This new survey follows on from similar previous surveys carried out by researchers for the 2003 and 2011 years, which both showed major changes to producers' parasite management practices.

The results of these previous parasite control surveys have proved very useful. For instance, they identified and confirmed the need for regional worm control programs and drench decision guides, which have been popular tools on the WormBoss website. The results also informed content for the FlyBoss and LiceBoss websites which contain valuable tools for managing flystrike and lice infestations.

The average number of treatments for worms increased from 2.1 treatments/year in 2003 to 2.7 treatments/year in 2011. The highest average number of treatments per year was in the New England (5.6 treatments) which is a region endemic to Barber's Pole worm. There was a greater use of combination drenches used in 2011 (43%), however there were still a large number of single active drenches given (57%).

In 2011, drench resistance testing was conducted by 29% of producers. Of those, 55% had resistance to benzimidazole drenches and levamisole, 28% to abamectin, 21% to moxidectin and 12% had resistance to ivermectin. 48% of farmers said they didn't know their drench resistance status.

There was a low use of genetic selection for resistance to worm infection (13%) in 2011 with paddock spelling, cropping and cattle/sheep rotations being the most utilised methods of worm control.

Regarding lice, 23% of producers reported lice infestations in 2011, with 27% reporting rubbing. More than 50% of producers reported no evidence of lice. Lice prevention rated highly with sheep producers but 22% reported no treatment for lice. Backliner treatments were the most frequently used for both short wool and long wool treatments.

researchers: Dr Alison Colvin (alison.colvin@une.edu.au) or Prof Stephen Walkden-Brown (swalkden@une.edu.au) of the University of New England. Phone (02) 6773 5152.

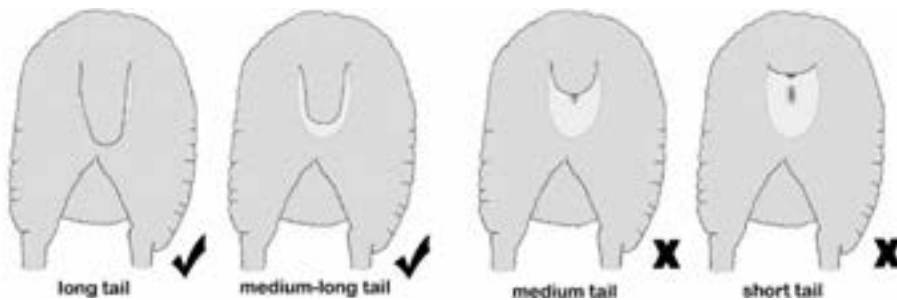
The survey should take about 30 minutes to complete. Any responses to the survey will remain confidential and researchers will not collect any identifying data. We thank participants in advance for taking the time to help improve our efforts to control parasites in sheep. **B**

MORE INFORMATION
www.wool.com/paraboss

TAIL DOCKING

DON'T CUT IT SHORT

Tail docking is a standard practice in the sheep industry and is important in helping reduce susceptibility to flystrike, but care must be taken to do it correctly.



There is no reason to dock tails short. Tails cut long (four knuckles) or medium long (three knuckles) are associated with better outcomes for the sheep. Docking at the fourth knuckle is the best option.

Veterinarian and sheep researcher Dr Joan Lloyd says the length of the docked tail is of prime importance and has life-long implications for the individual sheep's health.

"A shorter tail may be considered to be 'cleaner' and 'neater' but in fact a longer tail is far better for the sheep in many ways," Dr Lloyd said. "Tails cut long (four knuckles) or medium-long (three knuckles) are associated with better outcomes for the sheep across a number of different considerations."

Extensive research on appropriate sheep tail length was done in Australia in the 1930s and 1940s and Dr Lloyd said the findings are still highly relevant but unfortunately not always followed.

"This early research included approximately 10,000 unmulshed Merinos and Corriedales, and included ewes and wethers," Dr Lloyd said. "It concluded that tails docked either medium-long (three knuckles) or long (four knuckles) gave better protection against breech flystrike than did shorter tails. The medium-long and long tails also healed faster and were less likely to become infected."

Dr Lloyd said one reason why shorter tails are less effective at preventing breech flystrike is because the sheep cannot adequately move the tail. "Short docking cuts through the muscles at the base of the tail, so the sheep can no longer lift or twitch it normally. It cannot raise its tail when it defecates and cannot flick flies away.

"Cutting through these muscles also prevent the proper functioning of the muscles that encircle the anus, which predisposes sheep to rectal prolapse. A good landmark to ensure you don't cut through these muscles is the bare area on the underside of the tail. If this bare area remains intact, then the

muscles at the base of the tail will continue to function normally."

Further research on sheep tail length conducted by Dr Lloyd in 2014-15 (funded by MLA) identified an association between tail length and bacterial arthritis and polyarthritis in lambs. Again, longer tails gave better outcomes.

"We found shorter tails (one or two knuckles) have a higher risk factor for arthritis and polyarthritis than longer tails (three or more knuckles)," Dr Lloyd said.

"The most common cause of bacterial joint infections in Australian lambs is *Erysipelothrix rhusiopathiae*, which usually causes a fibrinopurulent arthritis and osteomyelitis after docking or castration."

These arthritic conditions are characterised by swelling, inflammation and pus. Vaccines to prevent *Erysipelothrix* infection are available from veterinarians. Dr Lloyd said good hygiene and tail docking practices that promote rapid healing should be followed.

"The younger the lamb and the longer the tail is left, the quicker the tail docking wound heals," she said.

Research has also identified an association between short tail docking and cancer of the perineal region. This is related to the increased sun exposure on the delicate perineal tissue in sheep with short tails

"The long and the short of it is that shorter tails

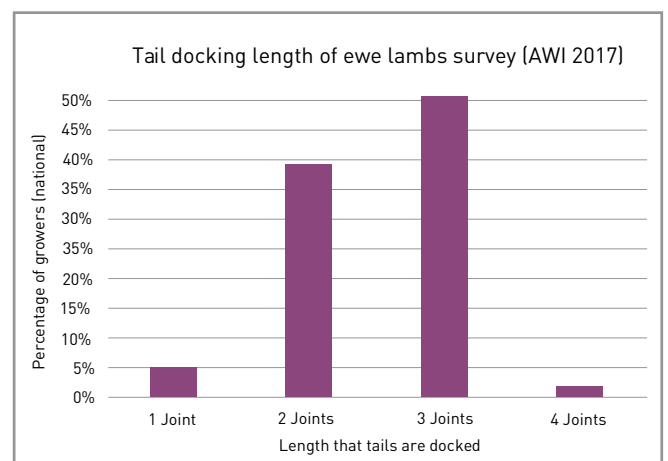
are a factor in many negative outcomes for sheep with no positive benefits. As such there is no reason to dock tails short. Docking at the fourth knuckle is the best option," Dr Lloyd said.

"Tail docking is an important operation. It is a surgical procedure. Only well-trained, careful workers should be allowed to do it and pain relief should be provided to the lambs.

"Ideally, pain relief should be applied to the tail. There are highly effective formulations of local anaesthetic now registered for use in tail docking in Australia. Ideally, the 'gold standard' of pain relief would involve a local anaesthetic and a longer acting analgesic used together – something to numb the site while the surgery is performed and something for the residual pain after the procedure. But at a minimum, at least one or the other should be given.

"Where the ring or hot knife blade is placed on the lamb's tail at marking will determine the tail that the sheep carries through life," Dr Lloyd said. "It's worth taking a moment to get it right. For the very best outcome, count the knuckles down from the base of the tail, put the ring or cut below the fourth palpable joint."

In a 2017 AWI survey of 1,200 woolgrowers on their Merino husbandry practices, 53% reported that they were docking their sheep at the 3rd or 4th joint (see below). Along with the increased risk of arthritis, there are many local factors that can influence woolgrowers' decisions on tail length such as the large regional environmental variations in risks from sun cancers and dags. **B**





FLYSTRIKE VACCINE RESEARCH UNDERWAY

AWI has announced a \$2.5 million investment in flystrike research that aims to develop a commercial vaccine to protect sheep right across Australia.

The \$2.5 million four-year research investment is a collaboration between AWI, the University of Melbourne and CSIRO to undertake preliminary research into the development of a flystrike vaccine targeting the Australian sheep blowfly.

AWI General Manager for Research, Dr Jane Littlejohn, explained the Flystrike Vaccine project is aimed at delivering an advanced flystrike prevention tool, providing whole animal protection.

"The investigation includes a detailed blowfly population study, led by the University of Melbourne, during the next three flystrike seasons across all Australian states. This research will identify any differences in the genetics of blowflies from different regions of Australia," Dr Littlejohn said.

University of Melbourne researcher Dr Trent Perry said that the population sampling data is essential for any effective control strategies to contribute to our identification of potential candidate antigens, the development of

chemical treatment protocols and monitoring of insecticide resistance.

"The second component of the University of Melbourne project is to detect the proteins and molecules released by both the blowfly larvae and the affected sheep during flystrike, which will determine the type, timing and magnitude of the sheep immune response during a strike," Dr Perry explained.

CSIRO Senior Experimental Scientist and Flystrike Vaccine research lead Tony Vuocolo highlighted the CSIRO has identified a group of candidates that are involved in blowfly larval establishment and growth on sheep.

"We believe that targeting these proteins through a vaccine has the potential to inhibit larval growth and ultimately kill the blowfly larvae," Dr Vuocolo said.

"The candidate antigens identified as inducing a strong immune response in sheep and that severely impact early fly larval development will be developed further with

the aim to develop a commercial vaccine with a VetPharma partner. If successful, this project will culminate in a flystrike vaccine that will protect sheep right across Australia."

Dr Jane Littlejohn added, "A number of previous AWI-funded projects have enabled the advancement of the science and we have committed to the investigation of the development of a flystrike vaccine on the back of this research. A flystrike prevention tool of this kind has never before been realised."



Researchers **Dr Clare Anstead** and **Dr Trent Perry** in the lab at the University of Melbourne.



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PRODUCER-LED TECHNOLOGY DEVELOPMENT

With technology rapidly changing many areas of Australian agriculture, a new collaborative project involving AWI and other rural Research and Development Corporations aims to give producers the lead in developing technology solutions for the industry.



Who 20 years ago would have thought electronic ID would have become so prevalent in the sheep industry? It makes you wonder what **new technologies** will be available 20 years into the future.

There are already plenty of new and emerging technologies that make the job of wool-growing easier and more productive: remote monitoring (of livestock, water points and pastures), electronic ID and smart tags, walk over weighing systems, virtual herding, automated irrigation, drones, electronic pasture meters, automated jetting races, feed on offer satellite imagery, motion sensor cameras, electronic fencing voltage alerts... the list goes on.

However, the exponential growth in digital technologies during the next five, ten and twenty years will transform Australian agriculture in ways we can now only imagine – and AWI aims to ensure Australian woolgrowers are on the front foot to take advantage of the opportunities.

Startups present a transformational opportunity for the Australian wool industry, and a fundamentally new pathway for commercialisation. But to solve real problems and respond to high value opportunities, we need to elevate the role of woolgrowers and other producers and build their innovation potential.

FEEDBACK SHOWS WOOLGROWERS WANT TO GET INVOLVED

Results from workshops held by AWI last year showed that woolgrowers are really interested in technology.

Furthermore, while current woolgrower interaction with agtech startups is limited/minimal, the majority of the workshop participants said they would be interested in working with entrepreneurs to help them solve problems that are relevant to the wool industry, such as by providing tips to increase adoption or pitfalls to avoid.

A large majority of workshop participants even said they would be willing to invest their own money (in a modest way, less than \$20,000) in agtech startup companies working on relevant problems.

There was also overwhelming support in favour of making awareness of, and opportunities for interaction with, the startup ecosystem more widely available to woolgrowers.

At the workshops, the top five areas in which woolgrowers said they commonly experience problems, in order of frequency, were:

1. Labour intensive systems, particularly: feeding, poor availability of labour, and wool handlers
2. Shearing
3. Connectivity, phone, internet coverage, etc.
4. Sheep data collection, accuracy and integrity (lack of automation), mainly: live weight, condition scoring, and reproduction
5. Monitoring and management of sheep welfare, especially during lambing.

The key motivation that underpinned the woolgrowers' problem areas was: "How can technologies help us to do what we already do now, but make it easier and cheaper without our intervention?"

A COLLABORATIVE RDC APPROACH TO AGTECH STARTUPS

Of course, the wool industry and AWI are not alone in wanting to support the development and adoption of technology in Australian agriculture. Many other rural Research and Development Corporations (RDCs) – including amongst others MLA, Wine Australia, and AgriFutures – have also been looking at producer-driven technology development.

A collaborative RDC project has therefore been instigated to reduce costs and leverage network benefits.


"The aim from AWI's perspective is to develop a support system to attract and then develop innovative woolgrowers who are looking for cutting edge innovation and adoption of new technologies to solve wool industry problems," said AWI Program Manager, Farm Automation & Reproduction, Carolina Diaz.

"The project will develop entrepreneurship and technology capabilities amongst participants so they can then solve critical challenges within the industry and successfully bring new agtech solutions to market. The joint-RDC approach will help increase collaboration between producers and the global ag and food tech ecosystem and attract private investors to the industry."

The project is divided in three different streams:

- **Technology trials:** Aimed at producers who are interested in early adoption of technology and who are willing to work with startups to solve problems.
- **Pre-accelerator program:** To enable producers to test and validate their new venture's concept to determine its commercial viability and potential for industry impact.
- **Accelerator program:** Accelerate the development and commercialisation of more and better solutions that add value to the Australian wool industry.

The project will be delivered by Farmers 2 Founders, a business operated jointly by AgThentic Pty Ltd and Food Futures Company Pty Ltd. These consultants will provide facilitators and coaches, program experience across digital platforms, in-person events, and phone/video coaching, case studies and promotional support.

For those solutions that successfully reach the end of the pipeline, the consultants will also enable and support access to venture capital and other sources of private investment. 

MORE INFORMATION

www.farmers2founders.com

Workshops will soon be delivered where candidates will be recruited for the project. Contact stuart@farmers2founders.com for more information.

TESTING THE EFFECTIVENESS OF AWI SMART TAGS

Smart Tags being developed by AWI aim to enable woolgrowers to track, monitor and assess the status of their stock in real time – and make better informed decisions to contribute to their enterprise’s profitability.

The system being developed by AWI involves using Smart Tags on individual sheep to remotely monitor individuals in real time via a computer, tablet or mobile device.

The Smart Tags can be either an ‘ear tag’ that would last for several years, or ‘collar tag’ that would be used temporarily for example, on lambs.

The Smart Tags could be used for several purposes, such as monitoring the location and movement of individual sheep and mobs in the flock (see Box 1 below). This would be useful information if you want to know for example where and when the sheep prefer to graze, drink and shelter, or simply to know

where your animals are.

The Smart Tags could also be very useful for monitoring the interactions between ewes and their lambs for mothering up (see opposite page).

In addition to these direct applications, Smart Tags could be used for several research and data analysis purposes to help woolgrowers optimise their flock’s productivity. For example, flystrike management, wild dog alerts, health alerts and reproduction optimisation.

“Being equipped with information from comprehensive data would enable

woolgrowers to make ‘data informed decisions,’” said AWI Program Manager for Farm Automation & Reproduction, Carolina Diaz.

“Importantly, the system is being designed to be a labour saving innovation, aimed at taking some of the hard work and time out of wool-growing and contribute to an enterprise’s bottom line. It could be used as an alternative to some of the jobs normally done in a ute or on a bike.

“The technology is being designed to be low cost, long lasting and self-sufficient.” **B**

MORE INFORMATION
www.wool.com/smarttags

MONITORING SHEEP BEHAVIOUR WITH SMART TAGS

A project to examine whether AWI Smart Tags can identify sheep behaviours – such as standing, grazing or walking/running – is producing some very positive results.

In-the-paddock research led by Dr Jamie Barwick at the University of New England (UNE) is under way on a project to validate and optimise the AWI Smart Tag.

“The aim of the project is to demonstrate the AWI Smart Tag is capable of providing location and activity measures of sheep at pasture,” Dr Barwick said.

“We also need to understand the optimum device settings for predicting sheep behaviour from a collar and ear mounted sensor – and generate a behaviour algorithm to predict activity metrics in the field.

“If successful, the project will help provide real-time online data of sheep behaviour enabling woolgrowers to monitor their animal’s health and welfare remotely.”

The latest research to use AWI Sheep Tags to classify three behavioural events (grazing, standing and walking/running) of sheep has produced some very precise results, for both the collar and ear tag.

The algorithms are now being implemented in the firmware of the tags to be validated in the paddock. **B**



One of the five ewes being used in the AWI-funded UNE trial, wearing the collar tag.

MONITORING MOTHERING UP

Trials to examine how well AWI Smart Tags match ewes with their lambs in the paddock has been undertaken on two commercial wool-growing properties.



John Coughlan (right) with Mick Chellas at Cudal Park in the central west of NSW.

The purpose of these two trials was to begin testing the mothering up capabilities of the AWI Smart Tags on commercial properties. Since previous work was completed, updates have been made to the software and algorithms in the tags used to perform mothering up. The objective of the trials was to test these updates and determine their accuracy.

Two woolgrowers from central west NSW raised their hands to generously assist in the trials: John Coughlan of 'Cudal Park', a commercial property just outside Orange and James Armstrong from 'Cassillis Park Merino Stud'.

Both woolgrowers provided lambs and ewes to be DNA tested and tagged, while allowing AWI staff onto their properties to assist with the installation of the Smart Tag equipment.

The trials have been completed and during that time the Smart Tag system worked very well showing a constant collection of data that is now being compared to the DNA results for verification. While all the DNA results have not yet come back, the results so far are looking very promising.

The enterprise at 'Cudal Park' is a fine wool-growing operation with sheep meat as a secondary income. The wool is soft, white, well-nourished with beautiful handle on a low maintenance, polled, modern, plain non mulesed Merino.

"The flock consists of 2,500 breeding ewes with equal amount of lambs, and we normally



James Armstrong applying a collar tag to a ewe at Cassillis Park Merino Stud in the central west of NSW.

run 2,000 wethers but they have all been sold because of the current drought," John said. "It is a 16-micron flock based on Yalgoo genetics for 21 years via yearly purchased rams and a AI programme to breed my own rams. Rams are selected for excellent wool traits and high productivity.

"I was interested to participate in the trial because R&D is critical to a farming operation to increase productivity and efficiency on an ongoing basis. This is achieved by using new technology and collecting data and then assessing the results to improve productivity across the whole farm."

Cassillis Park Merino Stud is a mixed farm based at Cassillis NSW. It is a family run operation that has been selling 150 medium wool rams annually in conjunction with a trading cattle enterprise and dual-purpose cropping.

"Cam and Winks Armstrong, along with Kylie and I have previously utilised PMM, EID, ET, AI and DNA technology to ensure we identify, select and replicate our best genetics as well as utilise our labour as efficiency as possible," James said.

"The family value the on-farm R&D work that AWI has carried over the years and are pleased to participate in this current trial."

AWI would like to thank John and James for their assistance and cooperation in running the trials.

WOOLMARK BALE STENCIL

AWI and The Woolmark Company are offering Australian woolgrowers a free stencil of the Woolmark logo for use on their wool bales, to identify and brand their wool fibre as being proudly grown in Australia.

The Woolmark logo is world-renowned and the most recognised label for fibre quality in the textile industry. If you are an Australian woolgrower, AWI encourages you to apply for a stencil.

By branding your bales with the Woolmark logo, you proudly identify your wool as Australian grown and connect your greasy wool to this global branding opportunity.



The new Woolmark bale stencil will, over time, form part of a broader supply chain integrity program that has been initiated by AWI.

Woolgrowers are eligible to apply for a stencil if they were eligible to vote in WoolPoll, ie they have paid more than a total of \$100 in wool levies over the past three financial years.

Eligible Australian woolgrowers should head to www.wool.com/stencil and order their Woolmark stencil. Alternatively, woolgrowers can fill out the hard copy application form that was included with the December edition of *Beyond the Bale*.

You can order up to two stencils per order and you'll need to provide your AWI Shareholder or Levy Payer Reference Number on application. For further information, contact the AWI Helpline on 1800 070 099.

MORE INFORMATION
www.wool.com/stencil
stencils@wool.com



The first bale out of the shed at Wallaby Run with the new Woolmark stencil on it. Wallaby Run is the wool brand of Atkinson Livestock, a family wool-growing operation on Kangaroo Island and in the Adelaide Hills of South Australia.

SHEAR EASY

TRAINING CAMPS

Training camps supported by AWI are providing shearers and woolhandlers with knowledge and advice to make their job easier with less stress on their body.

More than 20 shearers and woolhandlers looking to improve their performance in the shed or in competitions attended a five-day training camp at Dubbo in November sponsored by AWI and The Evolved Shear Fitness.

The training camp followed on from similar camps held in Quindanning (WA) and Mt Elephant (Victoria) earlier in the year, and two camps held in Dubbo in 2017.

The shearers and woolhandlers learnt from some of the best in the industry. The camp was organised by fitness trainer and former shearer Dylan Fowler, and multiple times NSW representative shearer and AWI shearer trainer Wayne Hosie. AWI trainers Stacey Te Huia and (current national shearing champion) Daniel McIntyre also taught the shearers, while AWI trainers Penny Clout and Rachael Hutchison taught the wool handlers.

Each day consisted half a day of health and fitness training at a local gym and half a day of training in the shearing shed at Dubbo TAFE.

"Shear Easy was put together so we could share our knowledge to help shearers do their job easier and become the very best they can be," said Dylan. "We showed participants how to improve their shearing pattern, footwork and gear and also improve their fitness, nutrition and how to take care of their body to reduce the risk of break downs."



Shearers and woolhandlers at the AWI-supported Shear Easy training camp at Dubbo in November.

FITNESS AND NUTRITION

Dylan said that if shearers want to make the most of their careers, having good fitness and nutrition is an absolute must.

"I spent five years as a shearer myself and was around the sheds most of my life, so I know the unique demands shearing puts on the body. If everyone looked after their bodies there would be better performances and a lot less injuries in the shed," he said.

"At Shear Easy, I showed the shearers how to increase their fitness for shearing. With the help of a physiotherapist we did daily mobility and recovery sessions, teaching them how to get their bodies more flexible and thereby recover faster and have less injuries. We also covered the best ways to do strength and endurance workouts in the gym and which muscles to target for shearing and handling big sheep.

"The participants were also advised how to make better nutrition choices to help them recover faster, shear more sheep and do it easier. For the whole camp, we supplied really healthy meals for the shearers so they could see how good nutrition affects them and gives them more energy. We also showed them how to prepare healthy food, so they'd know how to look after themselves better when they went home."



An ice bath aided recovery and also proved to participants that their mind can help them withstand bodily discomfort.

EASIER SHEARING AND WOOLHANDLING

Shearing trainer Wayne Hosie said the aim of the course was to make the shearers' jobs easier and more productive.

"We covered topics like footwork, angles and sheep positioning; comb dressing; grinding and gear maintenance and stand set-up. The shearers at the course made massive changes and really noticed the difference inside the shed."

The accompanying course for advanced woolhandlers was held in conjunction with the shearing course, and was also aimed to give participants the knowledge and advice to take their career to the next level.

"Participants learnt how to improve their skill set (timing and technique), the ins and outs of competition, how to fuel the body for a big day with good nutrition and fitness, how to do it easier every day in the shed and how to peak for competitions," Wayne said.

"Importantly, we highlighted the industry pipeline – from fibre to garment – so that participants understood how different wools are used and their value." **B**

MORE INFORMATION

For further information on upcoming courses, keep your eye on www.facebook.com/ShearEasy or contact Dylan Fowler on 0466 873 964 or info@theevolved.com.au



Yoga classes showed that stretching is very important to aid performance in the shed.

ONLINE TRAINING VIA SHEARING APP

The LOJIK online training resource for shearers is now available on an app. Launched by skilled international trainers, it is helping perfect shearers' techniques which in turn improves the quality of woolgrowers' clips.

One of Australia's top trainers and the holder of multiple shearing records, Dwayne Black, and colleagues have launched their LOJIK online training resource on an app, to further help impart their knowledge and advice to shearers across Australia and overseas.

"We have tried over the years to find a way to get factual information to shearers wherever they are located, as we can't service the demand face to face. But with the technology available today we believe this can be done via the app," Dwayne said.

"The aim is to provide information that can help any shearer become more efficient and make their job easier. The information is aimed primarily at the everyday shearer, rather than the beginner, to help them improve from the level they're at to the level they want to be.

"Quality shearing has flow-on benefits for the woolgrower. Better handling of sheep leads to happier animals; and better shearing techniques with the blade closer to the skin creates a better product, with minimum second cuts and a full-length fleece."

Available on the simply named 'Shearing' app, the LOJIK section is complemented by a separate Tally and Wool Book section.

WHAT'S ON THE LOJIK SECTION?

The LOJIK section of the app has four menu options. Each of these menu options includes a sub-category menu allowing simple, easy access to heaps of information and video-based tutorials:

- **Shearing:** Watch and learn about shearing patterns, sections of the sheep, tips 'n' tricks and speed shearing techniques.
- **Gear:** Information and tutorials about gear sharpening, pendulums, combs and handpieces.
- **Bodycare:** Information and examples of how to keep yourself in shape using exercise, stretching, nutrition and more.



Top shearing trainer **Dwayne Black** and cofounder **Ross Paton** have developed and launched the LOJIK online training resource on an app, available on a smartphone or tablet.

- **Extras:** Packed with information including personal best tallies, customer feedback and people that make our industry great.

Having all of these resources in the one place allows the user to source and learn at their own place and pace everything they will need to know about shearing.

"There are always ways to sharpen up on technique, especially if a shearer has learnt on the job and hasn't ever received any coaching from an experienced trainer."

A subscription to the LOJIK section costs \$14.99 for a month.

WHAT'S IN THE TALLY & WOOL BOOK?

The Shearing app also includes the Tally & Wool Book section for free! This section enables the user to enter, store, automatically calculate and display all relevant data associated with sheep shearing on an ongoing and daily basis until the job is done.

Property, sheep, shearer, wool handler and shed staff employment details are all able to be entered as well as sheep numbers, hours worked and details of the bales of wool being produced, including all branding requirements.

Also included is an incident report section, the ability to generate personal shearing statistics as well as a diary and daily planner section, and the ability to capture and store photos and footage for social or employment purposes.

Note: The app can be logged into and the Tally & Wool Book functions utilised regardless of internet connectivity, but internet connectivity is required to utilise the Lojik section of the app. **E**

MORE INFORMATION

The Shearing app is available for download from the Apple App store and Google Play store.
www.shearingapp.com

WORLD'S OLDEST SPERM STILL SWIMMING STRONG

Woolgrowers last month gathered at the Balmoral Sire Evaluation Field Day in Victoria to see first-hand the progeny of ewes inseminated with thawed 50-year-old frozen ram semen. The old semen achieved similar pregnancy scanning results and live births to the recently collected semen.

Frozen in 1968 by Dr Steven Salamon of The University of Sydney, the 50-year-old semen comprises a pool of semen from four rams: a 1959 drop Bonooke ram, a 1963 drop Merryville ram and sons of them that were born in 1963 and 1965 owned at the time by the Walker family of Ledgworth (and latterly Woolaroo), Yass. Peter Walker has been a long-time supporter of the R&D and attended the Field Day along with current and former researchers from The University of Sydney.

Originally frozen to prove sperm could survive storage in liquid nitrogen (-196°C) for several years, this bank of semen is to the best of our knowledge the oldest in existence of any species (human or animal) anywhere in the world.

For researchers Associate Professor Simon de Graaf and Dr Jessica Rickard at The University of Sydney, looking down the microscope at sperm cells swimming for the first time in 50 years, is a reminder of the remarkable discoveries their predecessors made to enable the commercial development of artificial insemination of sheep.

Despite 50 years of storage, the semen is as fertile as the day it was frozen, with pregnancy and scanning rates no different to the overall average of all sires (also artificially inseminated) in the Balmoral program. The fertility of this semen demonstrates that long term frozen storage of sperm is safe and reliably preserves genetics for future use, not just for agriculture but also human medicine.

This is of particular importance to young male cancer patients, who have stored semen prior to radiation treatment and/or chemotherapy and may want to start a family decades later but are unable to conceive naturally. This brought international media attention to the Field Day.

Much of the early artificial breeding work in sheep informed the development of many human reproductive technologies, often only applied in human medicine long after their availability in sheep. Peter Walker and his sheep were also involved in some of the pre commercialisation work for the human contraceptive pill, first released in the late 1960s.

The 2018 drop lambs on display were only six months old with six months wool but the lambs by the pooled semen certainly looked different to the progeny of current sires.

The comparison of the performance and visual traits will be of great interest to woolgrowers, researchers and the wider industry as the lambs are assessed over the next two years. They will be shorn for the first time in April 2019 and will again be on display for the 2020 Balmoral Field Day before being shorn for the second time in April 2020.

Reports on the 2018 drop Sire Evaluation will be available on the Merino Superior Sires website merinosuperiorsires.com.au in May 2019 after their first shearing.

AWI's predecessors, the Australian Wool Board, Australian Wool Commission, Australian Wool Corporation and Australian Wool Research and Promotion Organisation (AWRAP), co-funded much of the pioneering work into oestrus synchronisation, frozen semen and laparoscopic insemination technology with The University of Sydney's former researchers, Professors Terry Robinson, Gareth Evans, Chis Maxwell and Dr Steven Salamon.

Continuing investment from AWI in The University of Sydney's current research projects support Associate Professor Simon de Graaf (a student of both Evans and Maxwell) and Dr Jessica Rickard (a student of de Graaf; current McCaughey Research Fellow) to build on this legacy and deliver the next generation of assisted reproductive



Associate Professor Simon de Graaf, Peter Walker and Dr Jessica Rickard inspecting the progeny from the 50-year-old semen.

technologies for the sheep industry in a changing world where consumers are increasingly sensitive to laparoscopic AI and the use of PMSG (Pregnant Mare Serum Gonadatropin) to stimulate the ewe to cycle.

At the Balmoral Merino Sire Evaluation Field Day, held at 'Koorringal' in Coleraine, woolgrowers also heard from guest speakers including AWI Director Don Macdonald, Merino Lifetime Productivity project manager Anne Ramsay, Dr John Steinfort of Steinfort AgVet Pty Ltd and Associate Professor Simon de Graaf of The University of Sydney. **B**

MORE INFORMATION
The University of Sydney
(simon.degraaf@sydney.edu.au)
and AWI Program Manager Genetics
(geoff.lindon@wool.com)



17 of the 26-member **Balmoral Breeder Committee** who put on the Sire Evaluation Field Day led by Chairman and site host Mark Bunge.

AWI ARTIFICIAL BREEDING WORKSHOP

AWI convened an Artificial Breeding Workshop in December - attended by more than 30 invited researchers, woolgrowers, AI practitioners and commercial providers - to discuss the current PMSG shortage and help guide AWI's artificial breeding R&D strategy.

The AWI-hosted workshop was in response to several matters affecting the industry. Of immediate concern is the sudden shortage in Australia of PMSG, on which the industry relies for oestrus synchronization for AI and embryo transfer programs. The meeting concluded that there is a reasonable chance that PMSG will be available for the next breeding season (ie late 2019) but it is still unclear as to who will be the new importer. With increasing animal welfare concerns regarding how the PMSG is collected and used in other species, it is prudent for the sheep industry in the long term to look at PMSG-free AI and ET protocols.

Laparoscopic AI using frozen semen has for many years produced highly variable results. The good results have been good,

but the low results have led producers to walk away from the technology. Not only are falling conception rates restricting the adoption of artificial breeding and the growth of the artificial breeding industry, they are restricting the rates of Merino genetic gain.

AWI-funded research being run through SARDI aims to address several of these issues by developing new treatment protocols that are able to consistently produce improved levels of synchrony of oestrus. The workshop heard from the researchers who said that preliminary observations suggest there may indeed be ways to improve the synchrony protocols.

The workshop also heard that the results from an AWI-funded project undertaken by The University of Sydney have determined

that 'sexed semen' technology is effective enough to enable woolgrowers to choose whether they want male or female lambs via AI. Work on an appropriate diluent for frozen sexed sperm in a commercial environment is in the final stages of trialling. It is expected that it will be commercially available mid 2019.

Another AWI-funded project being undertaken by the University of Sydney is seeking to improve the function of frozen ram semen so that it can be effectively used in low cost, non-surgical, 'cervical' AI programs.

The workshop also heard about two new projects proposed by the University of Sydney: one to examine advanced in vitro tests that might provide an industry standard for semen quality, and the second to utilise new ear tag sensing technologies that provides the possibility of detecting oestrus, ovulation and joining remotely.

NSW DPI Livestock Research Officer Dr Gordon Refshauge also reported to the workshop on Australian research showing the negative impact of heat stress on embryo survival.

MORE INFORMATION

The report on the workshop is available on the AWI website at www.wool.com/artificialbreeding.

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NUMBER OF LAMBS PER SIRE REVEALED BY DNA TESTS

Research associated with the Merino Lifetime Productivity (MLP) project has revealed significant differences in the number of lambs per sire in syndicate joinings. How these differences vary between joinings is now being explored as this may have implications for sire management and selection.

AWI and the Australian Merino Sire Evaluation Association (AMSEA) have teamed up with five sire evaluation sites to deliver the MLP Project 2015-25.

The project is designed to capture lifetime data across diverse environments and Merino types to help better understand and deliver Merino ewe lifetime performance outcomes for the Australian Merino industry. This will include developing a better understanding of what can be done to improve selection at young ages for lifetime Merino ewe productivity. The vast volume of data being collected through MLP also provides an unprecedented opportunity for additional research into reproductive phenomena such as sire dominance.

Central to the MLP project are the 5,500 F1 ewes that have been bred through artificial insemination (AI) using 135 industry sires. These 5,500 F1 ewes will be syndicate joined 4-5 times during the life of the MLP project. DNA parentage is being used to identify the sire and dam of their F2 progeny with the aim to generate repeat reproduction records.

Early DNA parentage results of the F1 ewe

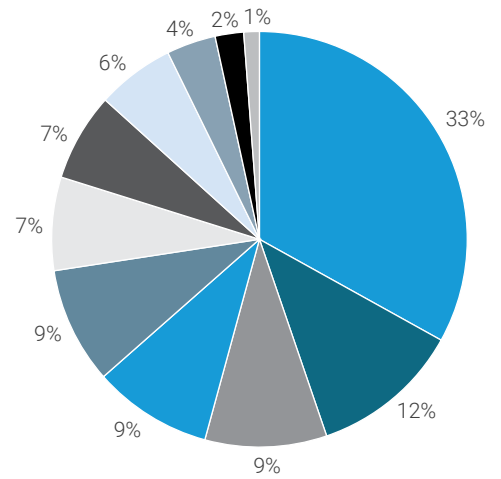
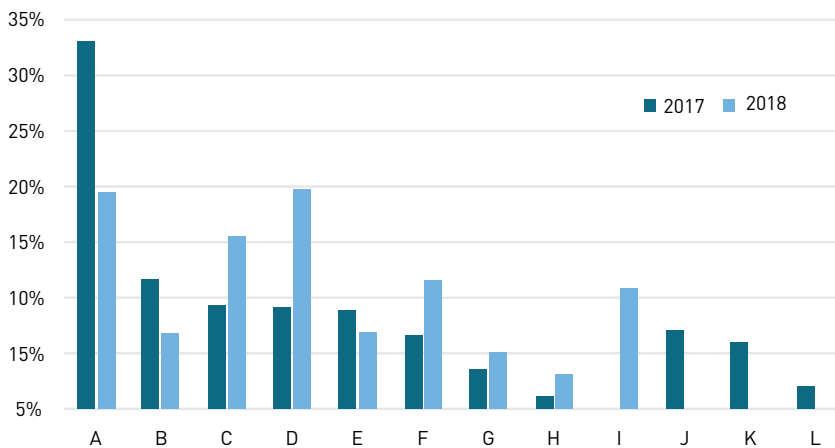
joinings has occurred at three of the five sites to date and show that, within a syndicate, there are often rams that sire a large number of lambs and others that sire very few lambs.

Research previously undertaken by MerinoLink and co-funded by AWI showed that when the same syndicate was joined for a second time, the dominance patterns can change.

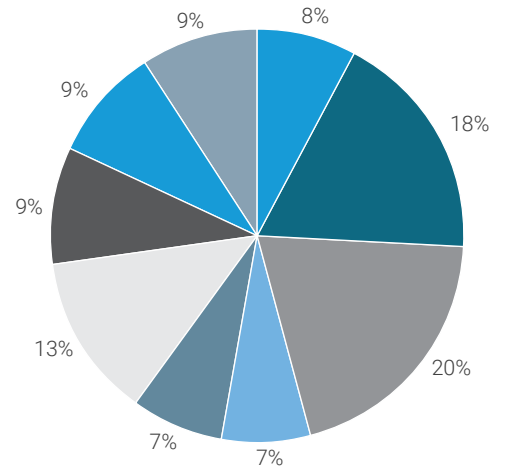
The three pie charts to the right from the MLP project show the percentage of progeny per sire from maiden joinings at Balmoral (the 2015 drop F1 ewes in the 2017 joining) with a joining percentage of 1.9%, and MerinoLink and Pingelly (the 2016 drop F1 ewes for the 2018 joining) both with a joining percentage of 2.3%.

In 2018, the Balmoral site rejoined eight of the same 11 rams used the previous year to the same 2015 drop ewes. Three rams from the previous year were unavailable and one new ram was added. The chart below suggests that sire A, the outstanding ram from 2017, is again a dominant ram the following year producing 101 lambs compared to sire H who only produced 6 and 17 progeny.

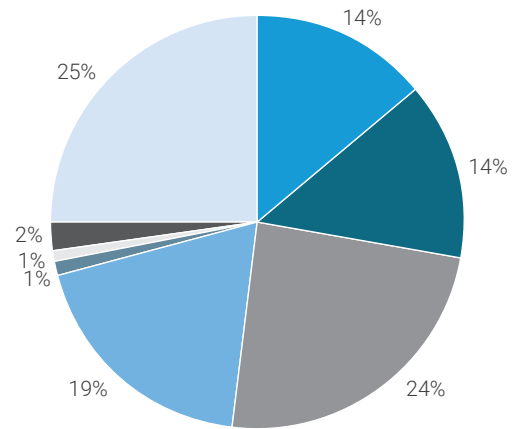
Balmoral 2015 Drop F1 – Portion of F2 Lambs Per Sire (2017 Versus 2018)



Balmoral 2017 F2 Lambs Per Sire
Range: 6 - 164 lambs



Pingelly 2018 F2 Lambs Per Sire
Range: 27 - 75 lambs



Merinolink 2018 F2 Lambs Per Sire
Range: 3 - 88 lambs

The above figures demonstrate the disproportionate contribution of dominant (high serving capacity and fertile) sires relative to other sires within a syndicate. Of particular note is the sire at Balmoral who produced 33% of the progeny in 2017 amounting to 164 lambs, compared with only six lambs by another sire in the syndicate.

While there is on-going natural selection for male and female fertility within syndicate paddock joining, since 1982, artificial insemination and embryo transfer has been adopted with reduced natural selection for male fertility and serving capacity.

The impact of this reduced natural selection is unclear; however, the repeat records generated over time through MLP will provide an insight into the variability that exists in flock rams regarding the number of lambs they sire per year and its repeatability. (The heritability of 'ram mating success' is 0.3 in prime lamb breeds.)

Smart tagging ewes and sires may give earlier information about serving capacity as

well as fertility if the ewe cycles for a second or third time. AWI has recently received a project proposal on this topic.

In the meantime, breeders can continue to visually cull for low scrotal circumference and select sires for higher scrotal circumference as this leads to more fertile rams and daughters. Where a ram breeder measures this trait, ram and semen buyers can use MERINOSELECT ASBVs for scrotal circumference.

Another interesting observation from DNA parentage is that a significant proportion of twins are sired by different sires (see table below). MerinoLink Site Manager, Sally Martin, confirmed that 32% of twins

were sired by two different sires at the MerinoLink site. This increased to 36% at Balmoral and 63% at Pingelly. These figures are consistent with previous research reported by MerinoLink.

While the outcomes of syndicate joinings are not a key focus of MLP, these preliminary results demonstrate the strength of the volume of data being collected during the project as well as the opportunity to leverage this data through additional research. **E**

MORE INFORMATION:
wool.com/MLP

Geoff Lindon geoff.lindon@wool.com

YEAR JOINED	EWES JOINED	NUMBER OF SIRES	PROGENY TAGGED	SETS OF TWINS	% TWINS BY TWO SIRES
Balmoral 2017	584	11	498	92	36
Pingelly 2018	386	9	368	49	63
MerinoLink 2018	348	8	353	87	32

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SEE WHAT THE MONARO CAN PRODUCE

Woolgrowers are invited to enter and visit the Berridale Merino ewe competition, the oldest such competition in Australia, which is being held for the 90th time this year.

The Berridale Agricultural Bureau this year presents the 90th Merino Ewe Competition, being held on Friday 3rd and Saturday 4th May.

One of the premier events on the NSW Merino calendar, the competition continues to attract producers keen to prove the worth of breeding top class Merino sheep on the Monaro. The competition, sponsored this year by AWI, aims to help lift the production of wool-growing enterprises and encourage younger generations into the industry.

Vice-president of the Berridale Agricultural Bureau, Lawrence Clifford, encourages woolgrowers to enter the competition or simply join the tour of properties across the

Snowy Monaro and learn more about what makes a good flock.

"I encourage producers to enter their flocks for consideration by our esteemed judges, who this year are Patrick Davis from Demondrille Merino Stud at Harden and Garry Cox from Langdene Merino Stud at Dunedoo. The judges will provide entrants with valuable feedback on their sheep which will enable each entrant to improve their quality further," Laurence said.

AWI's sheep industry specialist, Stuart Hodgson, who is a highly experienced sheep classer and former Merino stud stock agent, and AWI Industry Events Manager Wendie Ridgley will also be attending the event.



Woolgrowers at the **Berridale Merino ewe competition** can learn what makes a good flock.

"We hope to get many people from other areas to attend too, because 90 years is a significant milestone and a great opportunity to look over flocks across the Monaro," Laurence said. "Last year entrants came from as far as Crookwell. Woolgrowers can hop on to our bus to be taken to the different properties, to enable them to look at and compare flocks."

As well as the award for overall winner, there are awards for entrants with less than and more than 500 ewes, plus the John Coy People's Choice Award.

The cost for woolgrowers to attend the tour is \$10 per person which includes travel on the tour bus, plus morning tea and lunch on both days. The bus will do a pick up in the morning at both Cooma and Berridale each day. **B**

MORE INFORMATION:
Berridale Agricultural Bureau:
Ross Walters **0427 200 025** or
Tim Jardine **0428 688 646**

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IT'S EWE TIME!

The popular *It's ewe time!* forums are again being held this year, run as part of the AWI and MLA funded Making More From Sheep program.

One of the sheep industry's most popular extension and adoption programs, *It's ewe time!*, has returned in 2019 with a series of forums in Victoria, NSW and South Australia.

The half-day forums showcase practical tools and information to help sheep producers improve productivity and profitability. They are designed to deliver timely and practical tips and tools for on-farm practices and flock management.

Ongoing drought conditions across parts of Australia's sheep production regions have been challenging for many producers; however, the wool and sheepmeat markets have remained resilient. *It's ewe time!* will help producers tailor their management to seasonal conditions, prepare and plan for the year ahead, and maximise returns.

Three forums have already been held (Birchip and Benalla in Victoria and

Deniliquin in NSW) with four further forums scheduled on the following dates:

- 26 March – Jamestown, South Australia
- 27 March – Karoonda, South Australia
- 28 March – Naracoorte, South Australia
- 2 April – Armidale, NSW

The cost is \$35 per person to attend, which includes a forum booklet, morning tea and lunch. For further information or to register, visit www.makingmorefromsheep.com.au/events or call the AWI Helpline on 1800 070 099.

A joint initiative of AWI and MLA, the forums are part of the flagship Making More From Sheep program.

PAST PRESENTATIONS AVAILABLE NOW

Available on the Making More From Sheep website now (at www.makingmorefromsheep.com.au).

makingmorefromsheep.com.au/presentations) are the presentations from last year's *It's ewe time!* forums. Presentations from some of the events were recorded, so people can listen to the presenter and follow along with the slides at the same time. Topics include:

- Managing ewes in dry times
- Maximising lamb and weaner performance
- Your sheep health is your wealth
- Effective integration of livestock and cropping
- Making sustainable financing choices
- Animal welfare market signals and non-mulesed case study.

MORE INFORMATION:

www.makingmorefromsheep.com.au



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LOWERING MOB SIZE INCREASES LAMB SURVIVAL

Reducing the mob size of twin-bearing ewes at lambing will improve lamb survival, according to the final results of AWI-funded research. However, their stocking rate has little to no effect on lamb survival.

Lamb mortalities are estimated to cost the Australian sheep industry about one billion dollars each year, so improving marking rate, especially for twins, is an important driver of productivity and profitability for sheep enterprises.

An initial survey of commercial sheep producers in south-east Victoria conducted a few years ago showed that for each additional 100 twin-bearing ewes in a mob at lambing, lamb survival decreased by 3.5%. In single-bearing ewes the effect was quite a bit lower at 1.4%. The survey also found that lamb survival decreased by 0.7% for each additional ewe per hectare, regardless of birth type.

This suggested an opportunity for producers to improve lamb survival by reducing mob size and potentially also reducing stocking rate at lambing.

A project launched in 2016 and supported by AWI and MLA therefore set out with the main aims being to quantify the effects of mob size and stocking rate on lamb survival and provide some more credible recommendations for allocating ewes to mobs and paddocks at lambing.

The research was conducted at 85 on-farm research sites across Western Australia, South Australia, Victoria and NSW using Merino and non-Merino ewes. A large network of producers also provided data from their own farms – across a broad range of environmental and management conditions – to support the data from the research sites. AWI thanks all the producers involved for their participation.

PROJECT RESULTS

In summary, the project found lamb survival was poorer at higher mob sizes, but the stocking rate of ewes at lambing did not influence lamb survival.

A linear relationship between mob size and lamb survival was identified whereby the survival of twin-born lambs decreased by between 2% and 2.5% for each additional 100 ewes in the mob at lambing, across the 85 on-farm research sites.

This effect was consistent across Merino and non-Merino breeds and was not influenced by stocking rate when ranging from 1.5 to 12.5 ewes/ha, ewe condition score at lambing, Feed On Offer (FOO) at lambing or the characteristics of the lambing paddock.

Analysis of the data collected from producers and the on-farm research sites across southern Australia showed, on average, that the survival of single- and twin-born lambs decreased by 0.85% and 2.25% per additional 100 ewes in the mob at lambing, regardless of Merino or non-Merino breed.

“Overall this research has shown that the survival of twin-born lambs increases by between 1.1% and 3.5% when mob size at lambing is reduced by 100 twin-bearing ewes,” said researcher Amy Lockwood from Murdoch University.

“Implementing reduced mob sizes at lambing may require temporary or permanent fencing of paddocks, however our cost-benefit analysis shows that reducing mob size is justified even where paddocks require subdivision.”

The level of return achieved from subdividing paddocks depends on the current mob size, with greater returns from subdividing larger mobs. Optimum mob sizes for twins are about half that for singles.

“To maximise the benefits of reducing mob size on lamb survival, producers must pregnancy scan their ewes for multiples and preferentially lamb twin-bearing ewes in smaller mobs and paddocks. Pregnancy scanning is also essential for optimal management and resource allocation for single- and twin-bearing mobs at lambing.”

Optimum mob sizes are also dependent on factors including stocking rate, breed, scanning percentage, lamb price, the type and permanency of fencing used to subdivide paddocks and whether watering points are required, whether the advantages of improved pasture utilisation in smaller paddocks will be capitalised and the target return on investment.



Researcher Amy Lockwood and Dr Serina Hancock condition scoring some ewes at one of the research sites in WA.

DO SEASONAL VARIATIONS HAVE AN INFLUENCE?

The relationship between mob size and lamb survival was not found to be influenced by FOO in this project. However, Amy says variation in the effect of mob size on lamb survival was observed, as part of her PhD, in more detailed experimental work conducted in two contrasting seasons at Pingelly east of Perth.

“In 2016 we had an exceptional season in WA with FOO levels of more than 2400kg DM/ha throughout lambing, and under those conditions we saw no effect of mob size (50 vs 130 ewes) on the survival of single- or twin-born lambs,” Amy said.

“In contrast, we had quite a tough season in 2017. The FOO levels were less than 400kg DM/ha and we were supplementary feeding the ewes throughout lambing. Under those conditions the survival of twin-born lambs was 6.2% higher at a mob size of 55 compared to 210 ewes.

“This suggests that the effect of mob size on lamb survival could be greater when lambing onto limited FOO before or close to the break of season or even during winter/spring in poor seasons. However, further work is needed to investigate how the relationship between mob size and lamb survival is influenced by FOO and supplementary feeding.” **B**

MORE INFORMATION

View the project report on www.wool.com/mobsize. Workshops will be run and practical guidelines developed for producers during 2019.

MAXIMISING LAMB SURVIVAL

Reducing mob size at lambing is a management tool which can be used in combination with existing guidelines to optimise lamb survival. Current guidelines specify that improving lamb survival is best achieved by:

- pregnancy scanning for multiples
- separating single-bearing and twin-bearing ewes to allow differential management of nutrition
- monitoring ewe condition score
- assessing FOO and pasture quality
- providing shelter within available lambing paddocks
- having knowledge of historical lamb marking rates within available lambing paddocks
- allocating twin-bearing ewes to the best available paddocks.

CHECK YOUR CLOVER PASTURES!

Sheep producers are being urged to check their clover pastures for older high-oestrogenic sub clover varieties that can cause infertility in sheep and low lambing percentages.



Some older sub clover cultivars that were widely sown in Australia from the 1930s to 1980s have high levels of oestrogenic compounds. These can cause a number of reproductive disorders in ewes and together form 'clover disease'.

While newer varieties do not have this problem, remnant populations of the older sub clovers could still potentially impact sheep production. Clover disease affects ewes and wethers. Symptoms include: lowered ewe fertility, increased difficult births, prolapse of the uterus, udder development and milk secretion in nonpregnant ewes and wethers, and enlarged bulbourethral glands and urethral blockages in wethers.

Clover disease will only impact sheep when high oestrogenic clovers make up 20 per cent of the pasture eaten by sheep. Temporary infertility can occur where ewes graze germinating or green oestrogenic clover at mating or six weeks before mating. Permanent infertility occurs when ewes graze oestrogenic pastures for two or three years.

Sheep are most at risk while grazing when the leaf material is still green, rather than dry pasture. However if very good clover hay is made from the oestrogenic clovers and the leaf material is cured very well and has kept its colour, such hay can still be oestrogenic.

Although the older oestrogenic ('bad') sub clovers have not been planted for many years, like all sub clovers they produce a percentage of hard seed that can survive

false breaks and dry springs and therefore persist in many paddocks. Regeneration might occur following cropping rotations or drought conditions.

If one of your pasture recovery strategies following the drought is to increase the sub clover population by using the existing clover plants then you should check that they are not oestrogenic cultivars.

IMPORTANT TO CHECK YOUR CLOVER PASTURES

Not all older cultivars are high in oestrogens; the main bad cultivars of concern are Dwalganup, Dinninup, Yarloop and Geraldton.

To identify the bad cultivars three parts of the plant need to be examined: the leaf markings, the hairiness of the runner (not the leaf stalk) and the colour of the calyx below the petals in the flower.

Unfortunately, it can be very difficult for farmers and agronomists to accurately identify sub clover cultivars, but 'Good Clover Bad Clover' fact sheets to help in identifying bad clover are available on the website of AWI's state grower network Sheep Connect South Australia (see below).

Primary Industries and Regions SA (PIRSA) is helping increase producer awareness of potential issues and management strategies through a new Good Clover Bad Clover project, which is an MLA Producer Demonstration Site project supported with co-funding from Sheep Connect South Australia, the MacKillop Farm Management Group and Natural Resources South East.

PIRSAs David Woodard says 160 producers were surveyed as part of the project with the majority unaware of the presence of oestrogenic clover and not confident in identifying such clovers.

"Some 85 per cent of producers had never undertaken visual or laboratory analysis of their paddocks. Since, visual assessment and laboratory tests have been undertaken from 25 paddocks across 10 focus farms in south

east SA and Kangaroo Island," he said.

"Of the 25 paddocks, 20 paddocks had greater than 20 per cent oestrogenic clover present in the clover portion of the paddock. Of the 20 paddocks, 50 per cent had the potential to cause fertility issues in ewes with visual assessments ranking them moderate to high."

WHAT IF I HAVE BAD CLOVER ON MY FARM?

Once oestrogenic cultivars have been identified, the next step is to determine how potent the pasture may be to sheep. This will vary with the pasture composition across the paddock. Other good cultivars low in oestrogen and other pasture grasses and broadleaf plants will collectively dilute the amount of oestrogens that the sheep will consume.

Paddocks can be assessed by one of two methods: visually by the 'Stick method' or by collecting clover samples and sending them for laboratory analysis of oestrogen levels. Both methods are described in the Good Clover Bad Clover fact sheets.

The safest pastures should be reserved for ewe weaners and maiden ewes; the mid-aged breeding ewes on the next safest and so on. The higher oestrogen ranked paddocks should be kept for older breeding ewes, steers, lambs destined for slaughter, wethers or cropped. These higher ranked paddocks could be also targeted for pasture renovation with more suitable low oestrogen cultivars of clover – seek advice from your local agronomist.

It is important to examine overall ewe management as a number of factors can attribute to poor lambing performance. These include inadequate nutrition of ewes at mating, poor ram fertility, over feeding in late pregnancy, and other general health problems which can overshadow the effects of grazing oestrogenic pastures. Consult your veterinarian if you have any problems. **B**

MORE INFORMATION:
Good Clover Bad Clover fact sheets on
www.sheepconnectsa.com.au/factsheets

KEY POINTS:

- Clovers containing oestrogens can significantly impact on lambing percentages.
- Know the 4 'bad' clovers: Dwalganup, Dinninup, Yarloop and Geraldton.
- Rank your pastures.
- Graze toxic paddocks selectively or implement strategies to eliminate the bad clovers.

The not-for-profit organisation Ag EDGE is helping woolgrowers achieve better financial and personal outcomes through a collaborative and collective approach to decision making.

Ag EDGE is comprised of a number of unofficial 'boards of directors' made up of progressive agricultural business people. Each board provides a peer review function, delivering practical and professional input into each board member's business.

There are up to six individual businesses on each Ag EDGE board, with attendance welcome for all members of each business and family. Each board meets face-to-face up to four times each year and maintains regular contact in between meetings. Face-to-face meetings are professionally facilitated and each meeting is used to review each member's business performance or progress towards their goals.

Strict "in board" confidentiality allows comprehensive financial and benchmarking analysis and ensures an environment in which all members attending can fully express their points of views. Final decisions always rest with the business owners and minuted actions from each meeting help business members remain accountable to their decisions.

"Allowing other like-minded farmers to sit on a professionally facilitated board of management for your enterprise brings business rigour and support," according to Ag EDGE President, Charles Coventry.

"We have found across many farming businesses and many years now that this structure helps balance the power within an organisation. It can be very empowering for younger members of a business, while at the same time validating and honouring the more experienced members.

"It helps those in a business to set and align to a common goal and when this happens people become more confident to share ideas about how to achieve the stated goals."

BENEFITING FROM AG EDGE

Stuart McDonald and his wife Ellen run a Merino, cropping and cattle operation on 1,360 hectares near Canowindra in the central west of NSW and have been part of Ag EDGE for more than 12 years.

"Being part of a board made up of other farmers has helped us transition through succession which so many families really grapple with," Stuart said. "It has also helped the introduction of my wife as a valuable business member, from starting out as my girlfriend in the early days right through to



Stuart McDonald of Canowindra, NSW, has been part of Ag EDGE for more than 12 years.

the manager running the farm in 2018 whilst I undertook 16 weeks of overseas travel with a GRDC-funded Nuffield Scholarship.

"In relation to production, Ag EDGE has helped us enormously when looking at benchmarking and really improving the way we run our various enterprises. The issues we bring to the table for the business and family are different each time and Ag EDGE is a dynamic process assisting us all to adapt to change and opportunity. The time spent 'working on the business' with peer support and professional guidance is invaluable."

With input from the board, the family has decided to increase the intensity of its cropping enterprise whilst placing a greater focus on the sheep enterprise as well by utilising the services of a nutritionist, benchmarking production, focussing on key dates and undertaking the AWI-funded Lifetime Ewe Management course across the 1200-head ewe flock.

"We've really made more of an effort with the Merinos and it has been paying off, even throughout this very difficult drought," Stuart said.

"Ag EDGE has provided us with a forum to regularly review all our decisions and evaluate performance. The ability to keep making decisions, when outside influences like the weather challenge us, is essential to achieving the desired overall outcome. The perspective and support of the Ag EDGE board means we are better informed to manage risk."

Stuart says the full disclosure during Ag EDGE meetings has been empowering and allows a much more thorough discussion of the factors affecting his business than can be achieved in normal social settings.

"I am as happy as the next person to quote off my lambs marked to ewes joined in any particular year, but Ag EDGE is a unique forum where you can dig into the numbers behind those statements to assess the contributing factors. This allows you to make objective decisions around how you would like to change those percentages and how it influences enterprise profitability.

"Due to the diversity of experience and fresh perspective from the board members in Ag EDGE we can also address those factors that may be considered a limitation, because other board members review issues from a completely different angle, which can create opportunities.

"The whole process brings confidence in farm business management and unifies business and family members to attain goals together." **B**

MORE INFORMATION
www.agedge.com.au

Charles Coventry 0448 828 704
Stuart McDonald 0427 640 200



2019 NATIONAL MERINO CHALLENGE

REGISTRATIONS OPEN SOON

Registrations open in April for this year's National Merino Challenge which is being held in Sydney. The National Merino Challenge is an AWI initiative designed to allow young people to engage with the Merino industry by developing their knowledge, skills and networks.



Networking amongst fellow agriculture students and wool industry professionals is a major part of the National Merino Challenge; pictured are last year's participants.

The 2019 National Merino Challenge (NMC) is heading to the Sydney Showgrounds on 25 and 26 May to encourage the next generation of the wool industry.

Now in its seventh year, the annual event has provided more than 600 secondary and tertiary students with the basic skills involved in the wool industry – both traditional and modern methods – as well as an understanding of the career opportunities within the industry.

Run by AWI, the two-day NMC involves presentations and demonstrations from industry professionals. Students participate in seven 'mini-challenges', testing their knowledge of Merino fleece, production, breeding and selection.

Techniques from several well-known industry initiatives, such as MERINOSELECT, Lifetime Wool, Bredwell Fedwell and Visual Sheep Scores, are used throughout the NMC, giving students an insight into tools available to growers to make more informed decisions.

The NMC has two sections – late secondary and tertiary – and is open to years 11 and 12

and tertiary students, Australia-wide. The tertiary sector includes university students and those studying through TAFE or another RTO.

An NMC Industry Dinner will also be held enabling the students to spend an evening with a range of wool industry participants, from woolgrowers to wool brokers and researchers.

Emma McCrabb, who competed last year as part of the University of New England team, said she found the NMC to be a very informative and rewarding experience.

"The event is a fantastic opportunity for all students. I loved the producer focus, it's exciting and we all learnt really practical skills, and it's a fantastic opportunity to network," she said.

"At the end of the weekend, students don't just end up walking away with a career path, they walk away with about several different options. The wool industry is such an exciting place to be, particularly at the moment."

MORE INFORMATION
www.awinmc.com.au

GENERATING INTEREST IN SHEEP

As part of the planning process for the 2019 NMC and to maximise interest in the event, the NMC has been promoted at regional workshops, resulting in an increasing number of contacts with schools, colleges and teachers, especially in NSW, Victoria and Tasmania.

Train the Trainer sessions are also being held for teachers at ag schools and colleges, to generate renewed interest in Merino sheep while students undertake their studies, and also to ensure the colleges fit the 2019 NMC into their programs.

Through continued liaison and webinars with the schools and colleges, AWI has linked training discussions with the commercial sheep environment.

The use of lifetime ewe concepts, AWI dry feed cards and commercial scenarios of wether lamb and wool markets were well received by young people as it provided clear examples detailing how management decisions can increase production in commercial operations.

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David Grimm

AVERAGE MONTHLY EMI COMPARISON

EMI'S STRONG PERFORMANCE CONTINUES

The chart opposite provides a snapshot of how well the AWEX monthly Eastern Market Indicator (EMI) and a range of microns have performed for the past three months (November 2018 – January 2019) in Australian dollar terms compared with the previous five years November 2013 to October 2018 (circles) and the decade previous to that, November 2003 – October 2013 (squares).

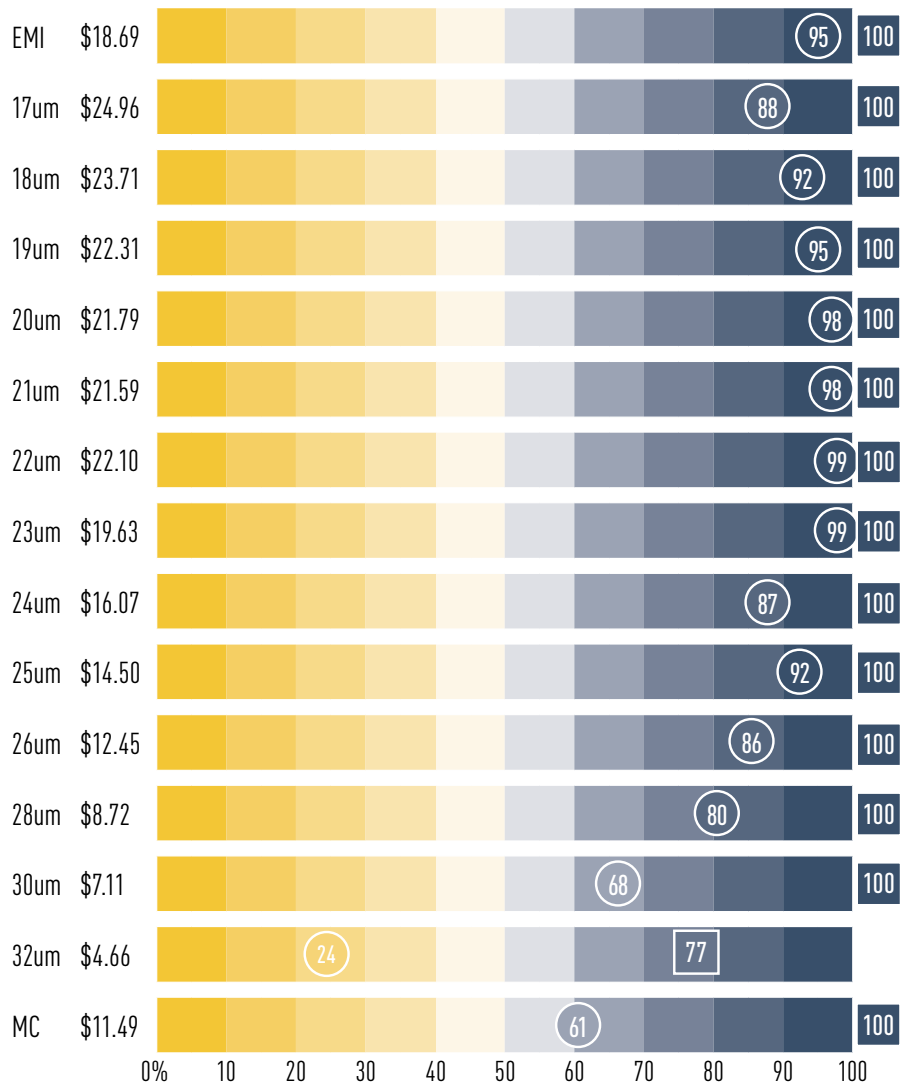
For the past three months, the monthly EMI averaged at \$18.69, tracking at the 95th percentile against the previous five-year monthly EMI. This means that in the previous five years the monthly EMI has recorded a lower price than the current \$18.69 (November 2018 – January 2019) for 95% of the time.

While the EMI is tracking at the 95th percentile over the previous five years, it is at the 100th percentile when compared to the decade November 2003 – October 2013. This means the current EMI of \$18.69 (November 2018 – January 2019) is higher now than it was for all that decade.

The mid and finer microns have continued to perform well recently. However, the performance of Merino Cardings (MC) and broader microns has slipped slightly. For the past three months Merino Cardings averaged at \$11.49, operating at the 61st percentile for the previous five years and the 100th percentile for the previous decade.

For the same recent three-month period, 18 micron averaged at a monthly value of \$23.71 (92nd percentile for the previous five years and 100th percentile for the previous decade), 21 micron averaged at \$21.59 (98th percentile for the previous five years and 100th percentile for the previous decade), and 28 micron averaged at \$8.72 (80th percentile and 100th percentile respectively). **B**

AVERAGE MONTHLY EMI FOR NOVEMBER 2018 – JANUARY 2019 COMPARED WITH
 ● PREVIOUS 5 YEARS NOVEMBER 2013 – OCTOBER 2018
 ■ THE DECADE NOVEMBER 2003 – OCTOBER 2013



MARKET INTELLIGENCE: FREE VIA SMS

In an initiative launched in 2017, AWI is sending wool prices and market intelligence direct to about 5,000 woolgrowers' mobile phones.

The woolgrowers receive the latest movements in the EMI in a simple text message (see left image), including a link to a full price report that provides more detail about price movements (see right image).

If you would like to subscribe to the free SMS service, visit www.wool.com/sms where you will be asked to input your name and the mobile phone number to receive the SMS.

You can unsubscribe from the service at any time by replying to the AWI SMS message. **B**

MORE INFORMATION
www.wool.com/sms



ENCOURAGING WOOL INDUSTRY EVOLUTION

Continued adoption suggests woolgrowers are embracing the digital age and starting to see the value of online tools such as WoolQ.

With more than 2,000 users now registered on WoolQ, it is clear woolgrowers, brokers and classers are seeing the benefits the online platform has to offer.

Lucindale-based woolgrower, classer and broker Steph Brooker-Jones has a passion for driving the ongoing development and evolution of the wool industry, and so was an early supporter and adopter of the WoolQ platform. She says WoolQ is a great way for woolgrowers to build their networks across the wool industry.

“Growers can create their own business profiles and interact with other growers and possibly in the future with the trade,” she said.

Whilst other ag sectors are already well progressed in their adoption of digital technologies, the wool industry has been slower to evolve. It seems, however, the momentum is building, with both the current and future custodians of the wool industry trialling the online tools and resources now available to them.

“The majority of business and commodities now have online access and trading platforms,” said Steph. “It’s time the wool industry entered the 21st century.”

In addition to the ability for growers to build their networks and profile across the industry, another key benefit of WoolQ is



South Australian based wool broker, classer and woolgrower **Steph Brooker-Jones** considers it important for the wool industry to embrace technology such as WoolQ.


its efficiency in solving in-shed errors, an area close to Steph’s heart. In the past few months, Steph has completed several online WoolQ e-specifications for her own shearing as well as encouraging her clients and wool classers to trial the tools.

“We have to get woolgrowers, woolclassers and even the pressers in the shearing shed on board,” says Ms Brooker-Jones, who sees WoolQ as a key means of solving one of the industry’s most significant challenges – discrepancies in paperwork.

“We have so many errors with duplicate bales, misdescribed bales or bales not turning up in store, but with WoolQ, the system will not allow you to duplicate bales and allocate bales to the wrong lines.”

For some of the earlier adopters of WoolQ,

this will be their second year of using the online platform, so they will enjoy the additional benefit of being able to see all their clip data, test results and sale results on their own personal WoolQ dashboard, and to compare this year versus last year.

The value of the WoolQ platform and the insights it can provide to aid your business decisions builds year on year, so if you are yet to register and trial the tools, head to www.woolq.com to get started. A WoolQ Starter Pack can also be mailed out to your address, to further support you in getting prepared in-shed. You’ll find the Starter Pack order form at the bottom of the FAQ section of the WoolQ portal www.woolq.com. 

MORE INFORMATION
www.woolq.com

WOOLQ MARKET TRIALS UNDER WAY

Following several trials, the remaining piece of WoolQ functionality, WoolQ Market, is in its final stages of testing and is soon to be released.


All components of the WoolQ platform have undergone extensive user engagement and testing to ensure the tools are user friendly, intuitive and deliver value. The most recent trial of the WoolQ Market functionality highlights the tool will soon be ready for release.

WoolQ Market aims to be a centralised, online marketplace for Australian wool.

The two-tiered platform will provide both a bulletin board of buying and selling interest accessible on a 24/7 basis as well as an efficient, easy to use online auction operating outside the Open Cry Market hours. With extensive benefits for buyers, brokers and growers, the WoolQ Market will serve as a complement to the current Open Cry auction markets.

Livestock producers have embraced electronic selling for years, with millions of sheep and huge numbers of cattle now sold this way each year, but woolgrowers have been slower to adopt the introduction

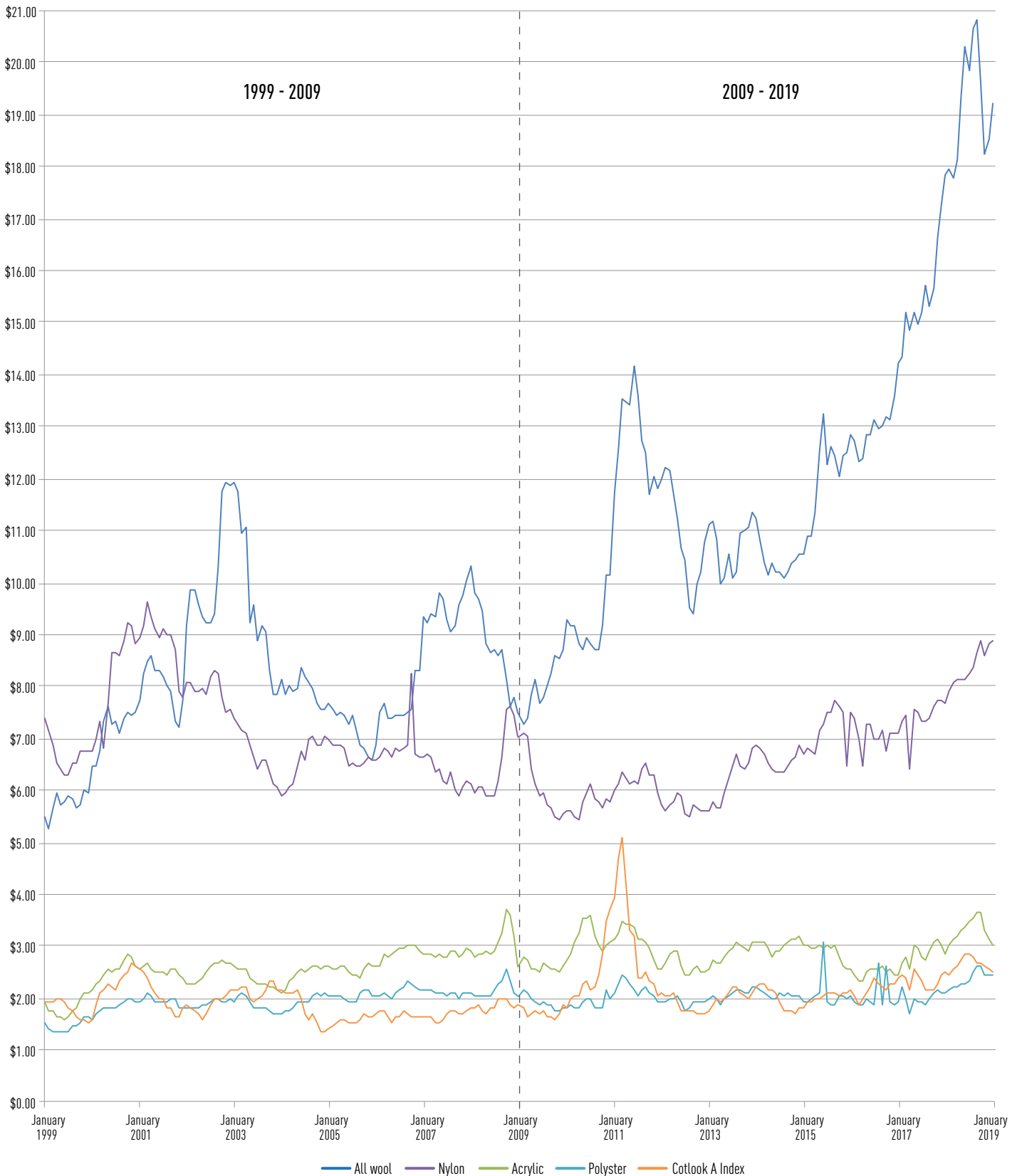
of digital tools. It is encouraging to see the initial interest in WoolQ Market and a gradual turning of the tide as the industry starts to explore more online avenues.

To participate in WoolQ Market when it launches, users will need to be registered. Pre-registrations for WoolQ Market are open now – head to www.woolq.com/woolq-market to register your details to ensure you are kept informed via email of the developments. You can also view a short video that explains more about the functionality and benefits of WoolQ Market. 

MARKET INTELLIGENCE

RISE IN PRICE OF WOOL VERSUS

AVERAGE MONTHLY PRICE FOR WOOL AND ALTERNATIVE FIBRES 1999 - 2019



INTELLIGENCE REPORT

WOOL VS OTHER FIBRES

In this article we look at the performance of wool during the past 20 years in comparison with other fibres in the market – and the reasons why the past decade has seen a marked improvement in wool’s performance compared to the previous decade.

Based purely on price levels, there are many fibres within the apparel sector which can be used as a substitute or cheaper alternative to wool. Below we assess wool’s value against the three major petrochemical synthetics: acrylic, nylon and the widely used polyester – and the most used natural fibre, cotton. This is solely a price comparison based on market values at the input (raw material) level.

The decade from 1999 to 2009 (see the left hand side of the graph on the opposite page) clearly saw the wool price languishing and generally subsisting in the doldrums. Through the first few years of the decade, the wool price was vulnerable to weakness due to numerous factors including the ongoing disposal of the wool stockpile and the economic uncertainty caused by the 9/11 terrorist attacks. Then the SARS virus in Asia caused further economic wobbles, which was followed by the hard-hitting GFC of 2007-08.

While all these events had their effects to dampen the price of wool, in addition the industry remained disengaged with consumers with very little marketing of the fibre.

Removing two or three spikes, wool sat in price band widths comparable to synthetics and cotton, so these other fibres remained as a competitor for wools’ market share.

In contrast, the most recent decade, 2009-2019 (see the right hand side of the graph), has clearly been wool’s breakout period, where it has transformed from a competing fibre to the synthetics and cotton to now be a fibre of choice for brands at or near the top of the fashion pyramid.

Over the past decade, wool has again found its place in the upper echelon of retail

garments and developed into some of the most technical garments available, thus increasing returns for producers.

On any comparative analysis, wool has outstripped all alternative volume-fibres and the figures in the table below highlight and quantify the gains that wool has recorded over the past 20 years, with most of that in the past decade.

Significant marketing, research and education activities currently being undertaken by all sectors of industry and AWI and its subsidiary The Woolmark Company – such as the latest ‘Live & Breathe’ campaign, life cycle assessments, and the health and wellness benefits of wool – will add a new component to any valuation of wool against fibres mainly used in fast fashion clothing. Quantifying the green credentials of wool from creation to disposal through the entire life cycle and assigning a fair and accurate index or market value is a priority.

These efforts, by provoking thought and a change of consumer buying behaviour, is statistically already apparent in the preceding charts. The wool industry’s superior positioning as being an environmentally-sensitive farming model in addition to a robust provenance declaration is clearly adding value to the natural fibre component that consumers are demanding at the luxury end of the apparel market.

Furthermore, wool needs to be less laundered than other fibres and is kept longer in the wardrobe – and consumers are becoming more and more aware of the environmental damage caused by microplastics. This is where wool is winning against synthetics and price and demand can advance further. **B**

FIBRE PRICE INCREASES DURING THE PAST TWO DECADES

	1999-2009 increase	2009-2019 increase	20 year increase
Wool	35.5 %	157.2 %	248.6 %
Nylon	-4.5 %	25.9 %	20.3 %
Acrylic	38.0 %	16.2 %	60.4 %
Polyester	34.6 %	19.4 %	60.8 %
Cotton	-2.9 %	33.4 %	29.6 %

GLOBAL APPAREL 2019 OUTLOOK

Snippets of news from the global apparel market.

The latest data released from China shows a surprising 3.5% increase in apparel goods (clothing) exported from that nation for the 2018 calendar year.

The analysis and news company *Market Pulse* states:

“Impressive results by the French luxury conglomerate LVMH (Moët Hennessy Louis Vuitton) kickstarted 2019 with note of optimism. The latest results turned the tide in favour of luxury goods, with investors momentarily shaking off fears of a slowdown in growth in China along with the anxieties surrounding Brexit and US-China trade spats. The Chinese market seems alive and well, with both Burberry and Tiffany reporting an increase in sales in mainland China.”

The news and research portal for the apparel and textile industry *Just-Style* states:

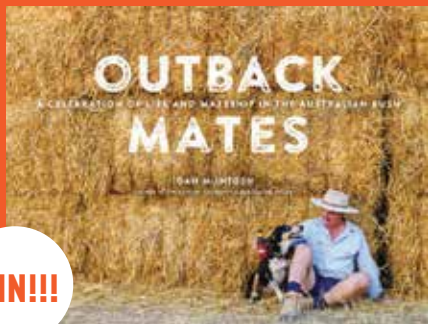
“US apparel giant Ralph Lauren has delivered better-than-expected results for the third quarter, suggesting the firm’s brand-building, product, digital and global expansion are finally on the right track.”

On a global level, the 2019 January edition of *Just-Style Outlook* included the senior partner at McKinsey & Company and co-leader of McKinsey’s Apparel, Fashion & Luxury Group, Dr Achim Berg stating:

“In our McKinsey Global Fashion Index, we forecast growth (2019) of 3.5% to 4.5% for the fashion industry overall – a slight slowdown versus 2018. Apparel growth, in turn, will hold steady at 4% to 5%. The polarisation across price segments continues: the value segment will achieve growth of 5-6% – the industry’s highest rate – followed by the luxury segment at 4.5-5.5%.”

Dr Berg goes on to add this statement:

“After decades in which the way of working in the apparel industry changed little, innovation and transformation are now the name of the game. Volatility, uncertainty and shifts in the global economy continue to be the top challenges for global fashion executives.” **B**



WIN!!!


If you submit a photo that gets published in Readers' Photos, you'll receive a copy of Dan McIntosh's 'Outback Mates'.

This 208-page hardback book is a celebration of outback Australia and the bonds of friendship that are forged living and working on the land.

READERS' PHOTOS!

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

If so, please email the image and a brief description to the editor of *Beyond the Bale* Richard Smith at richard.smith@wool.com.

 **Beyond the Bale has its very own Instagram account.** You can follow [@beyondthebale](https://www.instagram.com/beyondthebale) on Instagram and also tag us in your photos for your chance to be featured. We will also be showcasing on Instagram some photos emailed in to Readers' Photos (we'll ask your permission first), so you can keep emailing them in.

SHEARING FINISHED FOR THE YEAR

Jo Fraser of 'Heatherlie' in the Tallangatta Valley of north-eastern Victoria sent in this photo after they had finished shearing 10,500 sheep – showing their team of shedhands, all family comprising her three children and five cousins. Jo said that with six shearers and a happy young crew it had been a most enjoyable shearing – they are all looking forward to next year! With running sheep through the hills and valleys, the entire property has a seven wire electric dog fence around it and six Maremmas to keep wild dogs out.



THE STORM CLOUDS ARE COMING

Markdale Station, a working sheep and cattle station with self catered farmstay accommodation, at Crooked Corner in the Southern Tablelands of NSW, posted on Instagram this photo of an approaching storm. We hope you had a drenching!



HELPING OUT IN THE SHED

This is Phoenix, the 2½ year old grand-daughter of James and Donna Thomson, who was helping shear at 'Belowra Station' in south east NSW.



TUCKERED OUT

Jen Luxford from a property at Yankalilla in South Australia sent in this photo of their son Xavier (nearly three in the picture but has now turned four) who was pretty tuckered out after a day of shearing. Jen said the wool bag looked like a comfy spot for a kip!



QUALITY WOOL COMMITS TO YOUTH

Pictured are young team members of wool broker Quality Wool inspecting the AWTA length and strength testing machine located alongside the core lines at the Quality Wool store in Geelong, Victoria. In a move to help reverse the decline in young people entering the wool industry, the wool broker has created its own pathway for young team members, which has had an immediate impact with the company employing six young staff in five months.



WOOLGROWER-LED PROMOTION OF WOOL

Susan and Brendan Finnigan of 'Kia Ora Merino' at Winslow north of Warrambol in Victoria provide wool samples and wool/sheep themed merchandise to their local tourist information centre at Flagstaff Hill Maritime Village. This initiative reaches many overseas tourists and Australian travellers, who can learn about Australia's iconic Merino sheep, feel fine wool and take a souvenir home. Susan encourages other woolgrowers to do the same in their own towns and into capital cities. "Imagine if every tourist visiting Australia touched Australian wool - it's possible!"



ALL QUIET IN THE SHED

The end of another year's shearing at 'Mt Pleasant' at Burra, outside of Queanbeyan in NSW. "All is quiet and still in the shed for another year," said woolgrower Bill McManus.



A DUSTY DAY'S DRAFTING

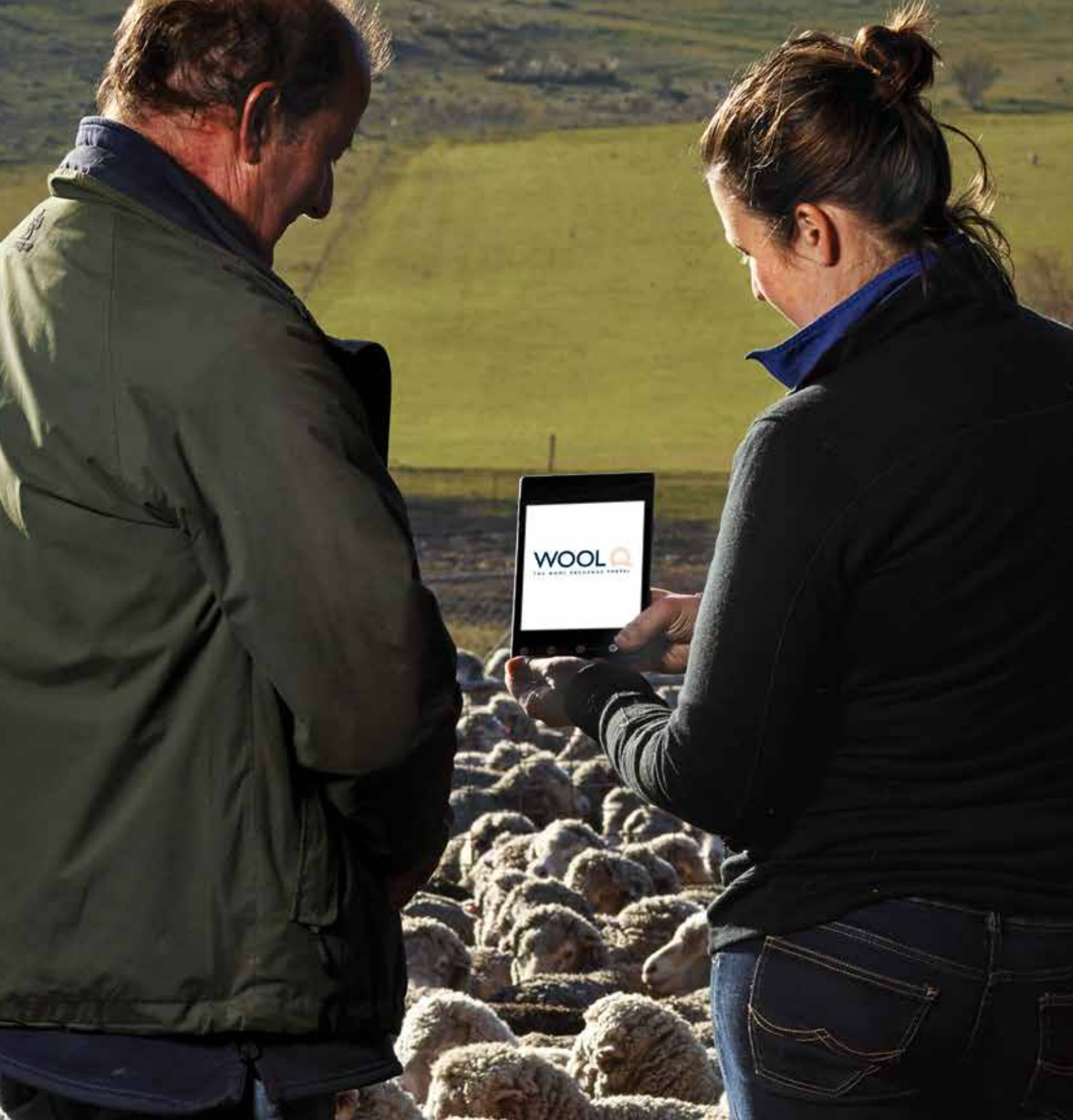
"Drafting is a little hard when you can't see the sheep!" said Kate Johnson of 'Glen-Ora Station' at Ivanhoe in western NSW, in this post on Instagram.



LAMB JUMPERS

Marie Knight 'Berrumbuckle' at Coonabarabran in the Warrumbungle Mountains of NSW started a drought program on Facebook called Lamb Jumpers "Helping Our Farmers". People from 7 to 103 have knitted, sewn or crochets lamb jumpers that Marie then gave to farmers to help with their poddy lambs. To date more than 40,000 jumpers have been given to farmers. They even have a calendar to raise funds for drought relief with CWA and Rotary.





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