Beyond thebale

USSIE OLYM DRESSED IN

WO

ISSUE 90 MARCH 2022

PROFIT FROM WOOL INNOVATION www.wool.com







Beyond

EDITOR Richard Smith E richard.smith@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

SUBSCRIPTION

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

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

COPYRIGHT

Material in *Beyond the Bale* is copyright. Reproduction of the material is encouraged. However prior permission must be obtained from the Editor.

DISCLAIMER

To the extent permitted by law, Australian Wool Innovation Ltd excludes all liability for loss or damage arising from the use of, or reliance on, the information contained in this publication. The Woolmark symbol is a certification mark registered in many countries. © 2022 Australian Wool Innovation Ltd. All rights reserved

ADVERTISING SALES Steve Luxford, Pulse Hub Pty Ltd P 0429 699 553 E steve.luxford@pulsehub.com.au Advertising is subject to terms and conditions published on the ratecard, which is available from Pulse Hub.

ISSN 1447-9680

FRONT COVER

Catriona Rowntree wearing the Campbell Town knit from the new Catriona Rowntree Capsule Collection from South Australian knitwear brand Iris & Wool. Using 100% Australian Merino wool to striking effect, this fashion piece offers a neat, v-neck design with contrast trims.

Iris & Wool, which is a Woolmark licensee, was launched by Emily Riggs in 2019 to showcase Australian Merino wool as the perfect fibre for apparel with a minimal environmental impact. Both Emily and Catriona are married to woolgrowers, so it's natural that they should both have formed a deep affinity for wool and supporting the industry.



This magazine is printed on PEFC (Programme for the Endorsement of Forest Certification) paper stock.



OFF-FARM

- 4 **Catriona Rowntree and Iris & Wool**
- Aussie Olympians dressed in wool
- 6 Western Hemisphere online retailing
- 8 Japan e-commerce campaign
- 8 China e-commerce campaign
- 9 Wiggle sportswear online retailing
- 10 Perfect Moment outdoor and ski gear
- 11 Glenmuir knitwear for golfers
- 12 Merino knitted on the Aussie farm
- 13 Merineo: super soft next to the skin
- 14 The Merino Polo
- 15 Merino at the Marriott in Hobart
- 16 From America's Cup to the Gondoliers
- 17 Shaun the Sheep's Christmas marketing
- Eco-sustainable wool felt packaging 18
- 19 Wool insulation for the car industry
- Woolmark Development Centres 20
- 22 Protection wear meets urban knits
- 23 Wool education in China
- 24 Technology tracing Aussie wool

AWI INVESTMENT STRATEGIES



Processing Innovation & Education Extension

Traceability

CONNECTING WITH AWI



feedback@wool.com

wool.com/podcast

twitter.com/woolinnovation

- facebook.com/AustralianWoolInnovation
- youtube.com/AWIWoolProduction



BtB



View Bevond the Bale online at http://bevondthebale.wool.com

AWI STATE-BASED GROWER NETWORKS

AWI-supported networks are present in each state.

- Sheep Connect NSW
- Sheep Connect SA
 - Sheep Connect Tasmania

Find your grower network at www.wool.com/networks or call the AWI Helpline on 1800 070 099.

Consultation



ON-FARM

- 26 AWI Young Leaders Scholarship
- 27 Modular sheep delivery units
- 28 New smart shearing handpiece
- 28 Tech to prevent shearing injuries
- 29 Tech wool handling system
- 30 2022 harvesting training courses
- 32 Shearer training: a recipe for success
- 34 Fleece rot and lumpy wool
- 36 Expanded AWI flystrike extension
- 38 AWI breeding publications
- 40 Worm your way out of a wet season
- 42 Merino Lifetime Productivity
- 44 **Comparing sheep performance**
- 45 Virtual fencing pushes boundaries
- 46 Sowing hardseeded legumes
- 49 Evaluating predator management
- 50 Rabbit biocontrol's eco benefits
- 51 Integrated rabbit control methods
- Market Intelligence update
- EMI level stable
- Market insights for the New Year
- National Wool Declaration
- **Premiums and Discounts**
- Woolgrower Industry Consultation Panel
- AWI online communication channels
- Seasonal conditions forecast
- Readers' photos

AWI E-NEWSLETTERS:

To subscribe to the free monthly AWI e-newsletter for woolgrowers, and the weekly wool market review e-newsletter, visit www.wool.com/subscribe

facebook.com/thewoolmarkcompany

youtube.com/thewoolmarkcompany

Instagram.com/thewoolmarkcompany

BESTWOOL/BESTLAMB (VIC)

The Sheep's Back (WA)

Leading Sheep (Qld)

THE WOOLMARK COMPANY

twitter.com/woolmark



AWI WORKING FOR **WOOLGROWERS**



John Roberts Acting Chief Executive Officer Australian Wool Innovation

AWI Acting CEO John Roberts provides readers with an overview of how AWI is addressing three of the key issues faced by Australian woolgrowers: shearer shortages, combatting flystrike, and the current market for Australian wool.

AWI projects to attract and retain sufficient shearers

The shortage of shearers, made worse by COVID travel restrictions, is something that AWI is working hard to address. We are running extra novice and improver shearer training courses to draw new entrants into the industry and help keep those already in it from leaving. However, we are also looking at other, high-tech improvements to attract and retain shearers.

For example, under development is a new, lightweight shearing handpiece that integrates sensing technology and is designed to make shearing easier, especially for learner shearers. And to help prevent shearing injuries, we are developing practical, wearable technology for shearers to alert them if they become at risk from fatigue-triggered injuries.

In addition, the project to develop a modular race system that eliminates the catch and drag, by delivering sheep directly to the shearer, is progressing well and will make the harvesting process quicker and physically easier for the shearer. The removal of the catch and drag, with all its pulling and twisting movements, will also reduce the chance of injury to the shearer. Read about these projects in this edition of *Beyond the Bale*.

All options are on the table. We are taking another look at upright posture shearing platforms and are also investigating the feasibility of using the Falkiner Memorial Field Station at Conargo, NSW, as a new shearing technology development and training centre.

New AWI resources for woolgrowers to fight flystrike

AWI has commenced the development of new resources for Australian woolgrowers who are considering moving, or already have moved, to a non-mulesed sheep enterprise. The resources will include workshops and access to one-on-one coaching to be delivered by trained and accredited advisors. The new resources are being developed in response to increasing requests from woolgrowers for information and support to reduce their reliance on mulesing. The resources should be ready for launch next year.

The new resources will add to and complement existing or previously announced flystrike extension resources from AWI that are relevant to all woolgrowers, regardless of sheep type, climate, operating environment, and husbandry practices. These include AWI's existing It's Fly Time! resources that provide woolgrowers with information for tactical flystrike prevention, monitoring and treatment; plus the related SimpliFly workshops that will be available from mid-2022. AWI's ClassiFly workshops, which are already under development and focus on breeding for flystrike resistance in sheep, will be available early next year.

Read more about AWI's expanded flystrike extension program on pages 36-37. The program will draw on the outcomes and findings of AWI's extensive flystrike R&D program, which continues with projects such as the investigative work to develop a commercial blowfly vaccine.

Marketing Australian wool in the 'post-COVID' world

There is still uncertainty regarding COVID and its ongoing effect on our key markets. However, it appears, for the moment at least, that economies are recovering and that consumer spending is building back up to pre-COVID levels, although not all markets and sectors are recovering at the same rate.

Textile trade shows are once again being held in physical settings and, although attendance numbers are down on what they once were, there has been a definite mood of optimism, albeit cautious optimism, at them this year. Positives are that knitwear is going well, up on 2019 levels, as is outdoor apparel. Consumer demand in China is going very well, and demand is also good in the USA. The casualisation of apparel is a persistent trend, and we are working to ensure that wool's performance benefits enable the fibre to be well represented.

Aside from COVID, the overarching topic that the textile and fashion industries continue to talk about is sustainability. As a natural, renewable and biodegradable fibre, wool is well placed to take advantage of this trend, and we continue to put extra effort into marketing the great eco-credentials of the fibre. We are also continuing to work with the European Union on solutions to correct the limitations in its Product Environmental Footprint methodology.

The consumer trend towards online shopping, which accelerated during COVID, is an area on which AWI has been focussing a lot recently, with many of our collaborative marketing projects being with the world's major online retail platforms, especially in China, Japan, the USA and Europe. Read about these projects in this edition of Beyond the Bale. The recent campaign with China's most influential business-to-consumer e-commerce platform, TMALL, led to \$122 million in extra sales of wool product, which is a 44% increase from the previous year's campaign. This is proof of AWI delivering strong results for Australian woolgrowers.

I hope 2022 has begun well for you. While good seasonal conditions continue across much of Australia, resulting in increased production, our concerns are also with those affected by less favourable conditions including those affected by recent bushfires.

South Australian knitwear brand and Woolmark licensee Iris & Wool has teamed up with TV presenter and wool advocate Catriona Rowntree to this month launch a collection of five new pieces made from 100% Australian Merino wool.

Based at Burra in the mid-north of South Australia, Emily Riggs launched the Iris & Wool knitwear brand in 2019 to showcase 100% Australian Merino wool as the perfect fibre for apparel with a minimal environmental impact.

"Australian wool is a fabulous, sustainable and durable fibre. Having a high-quality wool garment that is well made shouldn't be a luxury; it should be an investment that will see you through the seasons for years," Emily said.



Catriona Rowntree wearing the new Quirindi Cable knit jumper, which is made from 100% Australian Merino wool and available in cream, pink and red. The photos were shot at Catriona and her husband James' property in rural Victoria.

The Iris & Wool brand has grown steadily since the launch of the brand three years ago and recently became a Woolmark licensee. Since its very beginning, one of the biggest supporters of the brand's knitwear has been Catriona Rowntree who has regularly been seen wearing its apparel.

"Having graced our screens as a beloved presenter for more than two decades – and a passionate campaigner for Australian Merino wool – Catriona Rowntree exudes an inimitable warmth, and we are thrilled to partner with her for our latest collection, which will be available mid-March," Emily said. "Having been a wool ambassador for AWI for more than 10 years, Catriona is an incredible champion of Aussie Merino wool. She also shares our passion for timeless style, for quality, long-lasting sustainable pieces and supporting regional businesses."

Both Emily and Catriona are married to woolgrowers, so it's natural that they should both have formed a deep affinity for wool and supporting the industry. Emily's husband, Tom, runs about 15,000 Merino ewes on mainly pastoral country. Catriona's husband, James, runs a self-replacing Merino flock in Victoria, producing 16-18 micron wool, as well as a cropping enterprise.

"When I married my wool-growing husband in 2008 and I moved to the farm, I wondered how on earth I could contribute to his business. But then I realised that I have all these different media platforms through which I can promote this wonderful fibre," Catriona explained.

"So, I called AWI and I said put me to work, let me be a wool ambassador – and that is what I have been doing, whether that is at sheep shows, on social media, or on TV where I often wear wool.

"I first met Emily at the Jamestown Show while we were both proudly flying the wool flag and we bonded instantly.

"I have always absolutely loved Iris & Wool Merino wool knitwear, so this new collaboration with Emily is a natural extension of my desire to see Aussie wool worn by as many people as possible. It's a beautiful collection which I am very proud to put my name to."

Each item is named after some of Catriona's favourite wool producing towns, including Quirindi (NSW), Jamestown (SA), Campbell Town (Tas) and Little River (Vic).

The capsule collection includes three new jumper styles made from 100% Australian certified Merino wool, while the two other new garments in the collection are a first for Iris & Wool. The Paddington Bear wool blend coat pays homage to Catriona's Scottish heritage with duffle-style toggles and protective hood, while the 100% wool Little River Dress is what Emily calls "Merino meets Marilyn Monroe".

"Elevating wardrobe essentials with exceptional yarn, these five new timeless pieces reimagine Merino wool, presenting traditional knitwear in a truly modern way. We are so excited to be partnering with Catriona on this next chapter for our brand and can't wait for our community to experience the warmth of these spirit-lifting styles," Emily added.

More information www.irisandwool.com

Catriona Rowntree wearing the new Little River Dress, available in navy and cream. Using 100% Australian Merino wool to striking effect, the fashion piece features ruffled edges and a streamlined silhouette to highlight the waist. *PHOTOS*: GK Photography

> iris & Vool joins with Catriona Rowntree to launch 100% Aussie Merino collection

Mogul skiers **Brodie** Summers, Britt Cox and Cooper Woods unveiled the Australian Team formal uniforms in Alpe d'Huez, France, before competing in the Olympic Games in China during February.

Aussie Olympians dressed in wool

The 2022 Australian Olympic Team looked very stylish in their formal uniform that included wool coats, knitwear and scarves created by fashion lifestyle brand Sportscraft, Australia's longest-serving Woolmark licensee.

Fifty-eight years after Sportscraft won the Australian Wool Board's first 'Pure New Wool' licence, the Australian lifestyle brand continues to have a love affair with wool, unveiling formal uniforms for the Australian Winter Olympic Team that highlight the fibre's natural beauty.

Beijing 2022 marked the ninth time Sportscraft has designed and supplied the official Australian Olympic Team formal uniform, continuing their incredible support of Australian Olympians that stretches back to Atlanta 1996. For Beijing 2022, which ran from 4-20 February, Sportscraft produced a total of 750 uniform pieces, fitting 95 athletes and officials.

The highlight piece of the uniform is the longline wool blend coat in deep

navy that is lined with the names of all 265 Australian Winter Olympians, from our first Winter competitor Kenneth Kennedy in 1936 to Olympic champions like Alisa Camplin, Torah Bright and Steven Bradbury.

The uniform also features a 100% wool grey marle crew neck knit for the male athletes or a turtleneck knit for the females, and a 100% wool scarf.

"I love the feel of the uniform, Sportscraft has done a great job on the cut and the style, the quality of the fabric feels lovely on," said mogul skier and four-time Olympian, Britt Cox.

"I love the high turtleneck jumper, it has an alpine vibe and it's really appropriate for the Winter Games. I'm really excited and happy with the job they've done." Managing Director of Brand at Sportscraft, Elisha Hopkinson, was delighted to continue Sportscraft's long-time support for Australian Olympians.

"Sportscraft being the official team uniform supplier to the Australian Winter Olympians is incredibly important to our brand," Elisha said. "While we wanted the uniform to be modern and stylish in look, it also had to be relaxed and approachable in design and feeling. The uniform had to feel like an extension of our brand ethos by delivering a premium quality contemporary look for the quintessential Australian athlete."

More information www.sportscraft.com.au



XTM Merino base-layers and accessories at Beijing 2022

In its fifth Olympics as official supplier of the Australian Winter Olympic Team, Australian outdoor clothing brand and Woolmark licensee, XTM, provided Merino base-layers and accessories to all athletes and Team officials at Beijing 2022.

Of note, the gear included the Merino Woolzy, a one-piece top and bottom base-layer made from 20.5-micron 100% Australian Merino wool; and in an Olympic first for the Australian Team, XTM developed and launched the Heat Seaker Sock, a battery-powered wool blend heated sock that provides up to six hours of heat at three-different levels with wireless remote control.

More information www.xtm.com.au Australia's 12-year Winter Olympics' gold medal drought by winning gold at Beijing 2022. She is pictured here wearing the woolrich formal Australian Team uniform. "The kit looks great, I can't wait to get to wear it at the Games," she said prior to departing for Beijing.

Jakara Anthony ended



Australian gold medal Olympian **Lydia Lassila** road testing XTM's Australian Team gear ahead of the Beijing 2022 Winter Olympics.

Online retail partnerships

"AWI has a strong focus on driving sales of Australian wool products through engaging and impactful e-commerce partnerships."

AWI Acting CEO, John Roberts

With more and more apparel purchases being made online, AWI's marketing arm The Woolmark Company collaborates with the world's leading online retail platforms. Here and overleaf are recent online retail partnerships during the recent northern hemisphere autumn/winter that highlighted the season's best wool apparel and built demand for the fibre.



OFF FARM

Europe's largest online fashion retailer, Zalando, has showcased Merino wool to its customers to increase purchases of apparel products made from the fibre.

Founded in 2008 in Berlin, Zalando is Europe's leading online fashion platform, delivering to customers in 23 countries. In its fashion store, consumers can find a wide assortment of products from more than 4,500 brands. It is estimated that the online platform has nearly 50 million active customers.

Following a successful, initial marketing collaboration with Zalando last year, The Woolmark Company has once again collaborated with the large online fashion retailer in a recent campaign to increase awareness of Merino wool's benefits and increase sales of Merino wool womenswear.

"There are many benefits to this uniquely versatile fibre. Wool is a natural, renewable fibre so it's more eco-friendly than other fibre types. It's breathable too, and changes with your body temperature so you're never too hot or too cold. Plus its long life-span means you can wear it for longer."

Zalando

In a promotion titled 'Life in wool: nature's miracle fibre', a wool hub was created and promoted on the Zalando website and app. Here, customers were able



Stylist and fashion blogger **Anna Zlobenko** of ANN-Á-PORTER featured on Zalando's wool hub providing customers with insights into her favourite wool styles.



The content was translated for local language sites, with the campaign focussed on Germany, Switzerland, Austria, Belgium and France due to strong returns and engagement in those markets.

Berlin-based stylist and fashion blogger Anna Zlobenko of ANN-Á-PORTER featured on the wool hub providing insights into her favourite styles and thoughts on wool. This provided an authentic way to communicate the message of Merino wool and drive consideration to purchase wool apparel products.

"My wardrobe's full of timeless wool pieces – each representing a different side of me. Soft Merino dresses represent my femininity, while chunky knits show off my strong side. It's perfect for every occasion."

Anna Zlobenko, fashion blogger

Attributes of wool apparel that were highlighted by Anna include its softness, comfort and breathability ("Merino is naturally soft, trans-seasonal and versatile"); its ability to be easily styled ("I love to throw on a Merino wool sweater or cardigan for an extra touch of cosiness"); its timelessness ("Wool is long-lasting so you can love it for longer"); and its warmth in the cold ("Merino has a romantic vibe – especially in winter. It's perfect for keeping warm or cuddling up").

The highly engaging content from the campaign shoot was also used on The Woolmark Company's own social media channels, in addition to Zalando's digital and social channels.

The campaign generated sales of products valued at more than A\$1.5 million dollars and significantly overdelivered on awareness targets achieving nearly 20 million total views.

Highlight results:

19.8 million

717,000 WOOL HUB VIEWS (+30% YOY INCREASE)

MORE THAN **A\$1.5 million** WORTH OF REVENUE (+50% YOY INCREASE)

More information

www.zalando.com

bloomingdales

For the first time, The Woolmark Company has run a joint marketing campaign with the popular online shopping destination of the famous Bloomingdale's store in the USA, to promote Merino wool apparel for men and women.



Counded in 1861, Bloomingdale's is the USA's only nationwide, full-line, upscale department store. Headquartered in New York, Bloomingdale's is a division of Macy's Inc. While it operates 37 department stores, and outlet stores in 13 states, the company also has its popular online store bloomingdales.com with nationally focused sales.

The Woolmark company's partnership with Bloomingdale's, which ran throughout October-November 2021, was centred around an Autumn/Winter 2021 digital campaign which highlighted, celebrated and educated consumers on the benefits of Merino wool whilst providing a direct path-to-purchase on the brand's e-commerce platform.



"Warm, breathable, and sustainable, renewable Australian Merino wool is the ultimate natural fibre and a cold-weather must-have."

Bloomingdale's

Benefits of wool highlighted in the campaign included its sustainability including the fibre's natural, renewable and biodegradable properties; long lifespan; temperature control and breathability; and 'easy to care for' attributes.

The campaign included content creation (including beautifully shot imagery in a natural surrounding), banner placements

Banner promoting Merino wool on the homepage of Bloomingdales.com

on the bloomingdales.com homepage for one week, integration into the bloomingdales. com editorial look book for one month, two dedicated emails to the Bloomingdale's consumer database and social media exposure across Bloomingdale's channels.

Highlight results:

2.3 million

33,500 CLICKS TO SHOP

WOMEN'S: **+44%** YoY UPLIFT IN WOOL SALES



More information www.bloomingdales.com

FARFETCH

One of the world's largest luxury online retail platform, Farfetch, has again promoted some of the seasons' best wool apparel available for women.

aunched in 2008 and headquartered in London, Farfetch is a leading global platform for the luxury fashion industry. It provides its customers with access on a single online retail platform to an extensive selection of products from more than 1,300 of the world's best brands, boutiques and

> department stores. Farfetch has about four million active customers from more than 190 countries.

The Woolmark Company's first collaboration on a marketing campaign with Farfetch was in 2017. This was the start of a successful and lasting relationship between the two companies, which resulted in the launch of further joint

marketing campaigns in 2018 and 2019, and the running of a campaign in 2021/22 which is still under way at the time of writing.

Wool womenswear was featured on the hugely popular Farfetch online retail platform during the northern hemisphere autumn/winter. "Delicate and airy, heavyweight and structured, wool is the chameleon fabric of the fashion world. Naturally renewable and biodegradable, it's the smart foundation of a timeless wardrobe."

Farfetch

A recent wool feature on Farfetch, produced in collaboration with The Woolmark Company, enables its customers to be inspired by creative editorial about new wool products and – importantly – then be guided along a pathway to purchase the garments online.

The initiative targets Farfetch's global fashion-forward womenswear audience, featuring aspirational wool products including classic dresses, modern trousers, smart suiting and essential separates.

More information www.farfetch.com

Japan e-commerce campaign for Autumn/Winter 2021



The **campaign film** that had been used in China, and which features Merino wool fashion ambassador and actress Song Yanfei (centre), was localised to the Japanese market through a Japanese voice-over and subtitles.

To ensure that the campaign collateral was relevant to the Japanese market, some **unique key imagery** (see the example above) was based on the same concept of the visuals used in the China campaign.

In Japan, The Woolmark Company rolled out an Autumn/ Winter 2021 e-commerce marketing campaign that was based on the same format and content as the company's successful campaign in China. The campaign involved a collaboration with Japan's largest online fashion retailer, Zozotown, to drive sales of Merino wool apparel products.

For the first time, AWI's subsidiary The Woolmark Company extended its directto-consumer e-commerce Treasure Wool campaign, which had previously been launched only in China (see below), into the Japanese market.

The marketing followed the same successful campaign model and incorporated a lot of the same campaign imagery as that used in China, but the Japan campaign was localised to incorporate some Japanese models and Japanese brand partner garments.

AWI Country Manager for Japan,

Samuel Cockedey says the campaign put Merino wool at the front of digitally savvy shoppers' minds in Japan – all with the aim to make Merino wool the most coveted apparel fibre for Japanese consumers during winter 2021.

"The objective of the campaign was twofold: education and action. Firstly, to increase Japanese consumers' awareness of Merino wool's versatility by highlighting both traditional and new dressing options for more active lifestyles," Samuel said.

"Secondly, to get Japanese consumers to purchase Merino wool products by providing them with digital and social media touchpoints including a partnership with leading e-commerce platform Zozotown, with which The Woolmark Company had worked successfully on a campaign during the previous winter retail season."

Zozotown is the largest e-commerce marketplace in Japan, housing 91% of all accessible luxury brands, making it the perfect partner to drive Merino wool sales. The marketing campaign included a dedicated Merino wool shopping hub on Zozotown, which was live for a two-month period. Consumers were driven to shop on

Results

Awareness – through campaign film and social activation

- 611 million impressions
- 8.7 million video views

Purchase intent – through Zozotown partnership

- 913,000 social media engagements
- 135 brands on Zozotown
- 50,000 Merino hub page views
- Average of 42% uplift in WoW Merino wool units sold, pre vs post homepage banner
- Average of 54% uplift in WoW Merino sales value, pre vs post homepage banner

the Merino wool hub through multiple on and off-platform touch points including Zozotown homepage banners and social media promotion.



China e-commerce campaign: final results

As reported above and in the December 2021 edition of *Beyond the Bale* (pages 12-13), The Woolmark Company collaborated with China's most influential business-to-consumer e-commerce platform, TMALL, to launch a promotion of products made from Australian Merino wool for the Autumn/Winter 2021 retail season.

The Woolmark Company also collaborated with Chinese celebrities and top-tier Chinese fashion brands to support 'Double 11' and 'Double 12' wool promotions on TMALL. Double 11 (also known as Singles' Day) is an enormous online shopping festival held on 11 November in China, while Double 12 is another large online shopping festival held on 12 December.

The December 2021 *Beyond the Bale* article reported the launch of the campaign and included its interim results. Here we report the impressive final results of the campaign:



380 million WOOL HUB PAGE VIEWS ON TMALL (27% INCREASE YOY)



в

IN WOOL SALES (40% INCREASE YOY)

OFF FARM

Merino gets active with online retailer Wiggle

One of the world's largest online retailers of sports apparel, Wiggle, is so pleased with the growth of its sales of Merino wool products during a recent marketing campaign with The Woolmark Company, that it plans to carry out a Merino wool promotion every year.

Left: The 'Performance Wool' hub on the Wiggle website promoted the benefits of wool and guided customers toward purchasing products. *Right*: Wiggle and The Woolmark Company held a Strava challenge that attracted 195,000 participants.



E Warm-1 Ger instead out that is sential destroit

Beginning its journey as a local bike shop one of the world's largest online retailers of fitness clothing and equipment. Originally specialising in cycling and triathlon kit, Wiggle has since broadened its range to include gear for running, the gym and outdoor adventures, to meet growing demand from its customers.

On its enormous online retail platform, Wiggle not only sells the best products from leading brands from across the world, but it also has its own apparel brands on the site.

As one of the largest online retailers in sportswear, Wiggle was a perfect choice for AWI's marketing arm, The Woolmark Company, to work with during the recent Autumn/Winter season in the Northern Hemisphere.

"Two of the biggest trends in the market, especially during the past two years, have been the growth in online retailing and the rise in purchases of sportswear. We see these trends continuing and we want to make sure that Australian Merino wool is front of consumers' minds when they are considering purchases," said AWI Acting CEO, John Roberts.

"Our marketing campaign with Wiggle aimed to capture the zeitgeist of postlockdown consumption with messaging focused on the quality and durability of Merino wool.

"We are delighted that the partnership increased awareness of the performance

benefits of Merino wool amongst Wiggle's large customer base and, importantly, helped increase sales of Merino wool products on its online retail platform."

The marketing campaign

The marketing campaign, which ran from October to January, included the establishment of a 'Performance Wool' hub on the Wiggle website that provided customers with information about Merino wool and pointed them to Wiggle's extensive collection of Merino wool apparel that they can purchase online.

During the campaign, the wool hub was highlighted in a banner on the home page of the Wiggle website and promoted on Wiggle's high-volume social media channels (that have about 925,000 followers), email distribution (of more than 500,000) and website, as well as The Woolmark Company's own channels. A blog post was also included on the Wiggle blog that explained in more detail the performance benefits of Merino wool.

Highlights of the campaign include a 134% increase in sales of Merino wool products of Wiggle's in-house brand, dhb, during November. The brand's Merino long sleeve base-layer product grew by 199% during the same period.

This was the first time Wiggle had made Merino wool the hero of its Autumn/ Winter season and, due to high sales, the company plans to carry out a Merino wool campaign every Autumn/Winter, without further investment from The Woolmark Company.

the Merino wool promotion on the

Wiggle X Woolmark Strava challenge

An important and innovative part of the campaign was the joint hosting in October of a unique three-week Strava challenge, titled 'Wiggle X Woolmark Autumn Warm-Up 300', which received an impressive 16.9 million impressions on Strava. Especially popular with runners and cyclists, Strava is an online platform that enables users to upload and share a record of their fitness activity.

Wiggle offered the 195,000 participants that took part in the Strava challenge an exclusive 15% off a curated Merino wool range at Wiggle.com, plus the chance to win one of three Merino wool prize bundles. All participants had to do was sign up to the Autumn Warm-Up 300 and clock up 300 minutes of exercise during three weeks.

More than 86% of participants completed the challenge and were sent a follow-up email (through which they could receive their 15% discount) that also promoted the performance benefits of Merino wool products and drove sales within this highly motivated group of consumers at a key time of year for purchases.

More information

www.wiggle.com/wiggle-wool-hub

Perfect Moment in Merino

Luxury performance-driven brand Perfect Moment has joined forces with The Woolmark Company during the Northern Hemisphere winter to release a range of sustainable and stylish outdoor and ski gear.

The Perfect Moment brand embodies a love of style and a passion for adventure. For its latest Autumn/Winter collection, the brand reflects upon its heritage and where the brand started: on the ski slopes of the French Alps at Chamonix in the 1970s. At a time when Alpine skiing was attracting the likes of Audrey Hepburn, Jackie Onassis and Elizabeth Taylor, full glamour was the order of the day.

OFF FARM

10

The brand's new Autumn/Winter collection – for men, women and kids – contains statement designs typical of the 70's, alongside high-performance materials and innovative fabrications, which have a distinctive street style edge. No stranger to Merino wool, Perfect Moment has chosen the world's natural high-performance fibre to form a signature part of its collection, in collaboration with The Woolmark Company.

"This partnership with The Woolmark Company showcases our values; premium materials that are fashionable and functional," said Perfect Moment Creative Director, Jane Gottschalk.



Perfect Moment's latest range, including this Nordic Merino Wool Jumpsuit made from 100% Merino wool, is perfect for both on the mountain and après ski.

Wool outerwear as well mid- and base-layers

The Woolmark Company has worked closely with Perfect Moment to expand the brand's outerwear range, sourcing technical Merino wool woven fabric for jackets and ski suits that is resistant to both wind and rain to protect the wearer from the elements and when blended with recycled polyester enhances both durability and protection to the wearer in frostier conditions.

"In our AW21 collection we launched Technical Merino wool woven fabric for our outerwear jackets and ski suits, which not only creates a statement (and warmth) on the slopes but is also durable for snow, wind and rain. This partnership is exciting for the future of wool technology and outerwear designs for both streetwear and the slopes," Jane said.

The collection also contains plenty of 100% Merino wool mid-layers and base-layers. Sourcing the finest technical yarn from Woolmark licensee Südwolle, Perfect Moment's knitwear – including jumpers, jumpsuits, leggings and baselayers – delivers the ultimate in next-to-skin softness without comprising performance. The knitwear collection is certified for quality and wool fibre composition by The Woolmark Company.

"There's no better place for Merino wool than outdoors and on the ski fields," explained AWI Acting CEO, John Roberts. "And whilst Merino wool is again a favourite for base-layers and mid-layers, this partnership with Perfect Moment was also the perfect opportunity to showcase the fibre's excellent technical and performance benefits in outerwear, offering a natural alternative for apparel traditionally made from 100% synthetics."

Marketing boosts sales

Perfect Moment has created a special hub on its website containing all the brand's wool products, from where consumers can purchase the apparel online as well as learn about the performance benefits of Merino wool. The wool hub was highlighted on the home page of the brand's website for three weeks.

The collection is also available globally from a network of retail partners including online fashion destinations Net-a-Porter, Mytheresa, Farfetch, MatchesFashion and stores including Selfridges and Harrods.

An online advertising campaign to drive traffic to the wool hub was undertaken through social media, email and search. Eight global influencers, who have a combined following of more than five million people, were also used to promote the wool collection and drive consumers to purchase the apparel.

More information

www.perfectmoment.com/en-au/ woolmark-perfect-moment

> Perfect Moment's Star Gingham Wool-Blend Ski Suit demonstrates that wool is ideal for modern outerwear.

Glenmuir's 100% extra-fine Merino wool 'Wilkie' V-neck jumper with the (optional) Ryder Cup logo.

Genmuir has been at the heart of the game of golf since the company's beginnings 131 years ago in Scotland, the country in which the modern game of golf originated in the 15th century.

The brand's wool products are available worldwide via its online store and through luxury golf resorts around the globe, such as at St Andrews and Gleneagles in Scotland, The Belfry and Royal Lytham & St Annes in England, and Australia's own Royal Melbourne Golf Club. This association with some of the world's leading golf courses is a testament to the prestige of Glenmuir.

The brand's apparel is endorsed and worn by a multitude of sporting icons, from the likes of two times PGA Tour winner Ian Woosnam to cricketing legend and golf enthusiast Shane Warne. Glenmuir also has had the privilege to supply the shirts and knitwear to European Ryder Cup teams. As an official Ryder Cup licensee, Glenmuir is permitted to embroider the official Ryder Cup logo on its jumpers.

A heritage brand with a modern outlook

Whilst Glenmuir's passion for quality golf clothing is inspired by its rich Scottish heritage, the brand meets the demands of modern-day golfers who play the game across the world and in various climates.

"We're a proud family run business, with a valued, close-knit team who love golf. While many things may have changed since our company began in 1891, our purpose was, is and always will be to craft the world's most loved golf clothing," said Glenmuir Managing Director, Mikhel Ruia. "We continue to create the finest Scottish golfwear with impeccable care, skill and dedication to the craft, but the brand is also focussed on developing and embracing contemporary trends.

"We are pioneers in the golf industry for clothing made using renewable and sustainable methods, with Glenmuir having the largest collection of natural fibre products amongst all golf brands globally."

Woolmark certified jumpers

Glenmuir's signature 100% extra-fine Merino wool jumpers and 100% Lambswool jumpers are made from Italian-spun wool yarns that are certified for quality by The Woolmark Company.

The fine-gauge Merino knitwear creates a lightweight and soft-to-the-touch handle, providing comfort and practicality for layering. The garments are also machine washable.

As well as keenly promoting the natural, biodegradable and renewable aspects of wool to its customers, Glenmuir also highlights the performance benefits of the fibre, such as its thermoregulation, breathability, hypoallergenic, anti-odour and UV protection qualities – which all help the contemporary golfer when out on the fairway and green.

"Merino wool is full of practical – and natural – benefits. Its elasticity means it will stretch with ease as you swing, its breathability and odour resistance means you can stay fresh and clean all day, and its lightweight feel means nothing will slow you down," said Mikhel.

Eco-conscious manufacturing

As well as a commitment to the environment through its use of natural fibres, Glenmuir's sustainable methods of manufacturing are also at the heart of its product range. The Glenmuir jumpers are knitted 'fully fashioned' with the seams linked manually by its expert craftspeople, resulting in reduced excess fabric and waste, while also ensuring superior fit and smoother, stronger seams. All chemical discharge from the dyeing and manufacturing processes goes through a Waste Water Treatment Management System which returns the discharge to its original water quality.

Mr Ruia says Glenmuir's commitment to natural fibres and eco-conscious methods of production will continue to be a key focus for the company.

"As a family business, Glenmuir in our 131-year history has always and will always remain committed to respecting all of our stakeholders whether that be customers, suppliers, partners, colleagues – and the same goes for the environment," Mr Ruia said.

More information www.glenmuir.com

Glenmuir's 100% extra-fine Merino wool 'Amira' zipneck jumper.

Wool knitwear impresses on the fairway

Launched in 1891 at Lanark in Scotland, Glenmuir has a reputation as one of the world's leading golf apparel brands. Its range of Woolmark certified jumpers exemplify the company's commitment to natural fibres and the environment.

Aussie Merino knitted on **the Aussie farm**

Sheep and wool farmer Sue McClure has purchased and set up a commercial-sized Shima Seiki knitting machine on her farm in rural Victoria to manufacture sustainable products made from Woolmark certified Australian fine Merino wool yarn.

With their children and grandchildren, fourth generation farmers Sue and Mal McClure run sheep at Pigeon Ponds near Harrow in Western Victoria. A love of wool has been in their family's DNA for generations.

Now nearing the end of her 'other career' as a textile teacher at Balmoral Community College, Sue has extended her passion for knitting to a commercial level by setting up Kilmaille Knits, a business that manufactures and sells woollen knitted products direct from her farm.

"I've always wanted to see more wool manufactured into garments in Australia where it is grown. But last year I felt that the time was right to take a leap of faith and follow my dream to manufacture Australian Merino knitwear right here on our farm – Aussie wool, Aussie made, Aussie owned, Aussie farm," Sue said.

Sue and Mal McClure with their granddaughters Rhianna and Madeline and a selection of blankets from Kilmaille Knits on their property in Victoria.

> M.M. HARROW

The product range of Kilmaille Knits is mainly blankets and scarves at the moment, but Sue is currently working on a collection of whole garment knitwear products and she says the range will expand in the future as she becomes more skilled with her new Shima Seiki knitting machine.

"But at this stage, most of our business is custom orders for personalised blankets that include things like baby names and dates of birth, footy team slogans and property names. I do a lot of named blankets for customers in their favourite footy team colours – I've even done them for Essendon legends Reg Burgess and Barry Capuano!" she said.

"I check every item that is produced for quality before it is despatched, and we receive very good feedback from customers."

Sustainability at the heart of the brand

Sue says that as a textiles teacher, she is very conscious of the detrimental environmental impacts of the fast fashion industry.

"There is an enormous volume of clothing that is dumped in landfill, and synthetic fibres and their microfibres cause

significant problems to our waterways and planet," Sue said.

"In contrast to synthetics, wool is a natural, biodegradable and renewable fibre with many endearing qualities. Our family cares very much about sustainable farming practices and the environment in which we work and live. I also want to see sustainability at the other end of the supply chain, by wool products replacing synthetic products."



The Shima Seiki Mach2Vs WHOLEGARMENT® commercialsized knitting machine set up in the McClures' knitting studio on their farm. "We are dedicated to making the best wool products that are not just a purchase, but an investment."

Sue McClure

In July, Sue completed a short course in Circular Economy & Sustainability Strategies through the business school of the University of Cambridge.

"This helped cement the idea that what I am trying to achieve is so worthwhile," she said. "The Kilmaille knitwear products are non-seasonal and are intended to be lifelong, reused, repurposed, repaired and recycled – thereby being part of the circular fashion economy. Even all my packaging is 100% compostable.

"I have photocopied and framed the 'Wool is ideal for the circular economy' article from the latest edition of Beyond the Bale. I nearly teared up when I saw that article. It's like yes, yes, yes!

"AWI were helpful in providing me with information in general, particularly regarding wool processing and the finishing of wool, and they supplied contact details for yarn processors. They also gave me lots of sound advice about what consumers want."

The high-tech knitting machine

After many months of planning and researching, Sue's dream to knit Australian

fine Merino wool on her own farm become a reality in September last year with the arrival of the Shima Seiki commercial scale knitting machine all the way from Japan.

"To say we were excited is an understatement!" said Sue.

"We purchased the machine in May through textile equipment importer Ramsay McDonald Australia Pty Ltd in Melbourne. The machine arrived on a large steel pallet, and we needed a forklift, pallet lifter and several strong men to get it positioned into our garage that we had converted to a knitting studio. Rod Murray from Ramsay McDonald came down to the farm and was indispensable in helping us get it set up."

The Shima Seiki machine that Sue purchased is a WHOLEGARMENT[®] machine which means that its products are knitted in three dimensions without seams. Another advantage is that it uses exactly the correct quantity of yarn, thereby resulting in less yarn wastage than traditional manufacturing.

"This machine can use yarn of a weight that is needed to make the type of garments, blankets and throws that I want to knit. It can knit jumpers up to 3XL and blankets just over two metres wide," Sue added.

"I had no prior experience knitting with an industrial machine, but after a week's instruction from Rod and lots of support along the way, I felt confident doing basic knitting. I am continuing to undertake training and my skills have really come along. "I also purchased the Shima Seiki Apex design program which enables me to produce a virtual 3D image of a garment."

A top-quality investment

Aside from the Shima Seiki knitting machine and software, supplementary technology was also needed before production could get under way.

"Other things we needed were an industrial steam press imported from Italy, an air compressor for the knitting machine and steam press, a generator as our solar panels are insufficient to drive the boiler in the steam press. The total spend including the knitting machine was close to \$300,000 before the yarn."

Sue says that she is totally committed to using the best Australian Merino wool yarn she can source and uses Woolmarkcertified yarn.

"We use Tollegno 1900's Harmony range of extra fine Merino yarns. It is Woolmark certified, RWS certified and traceable right back to the point of origin through a supply chain that makes the gentlest footprint on the environment," she added.

More information

www.kilmaille.com.au

Merineo's wool fabrics are super soft next to the skin

The Eczema Association of Australasia has published a very positive review of Merineo's 'cool mesh' child clothing that is made from 100% superfine Merino wool.

A childhood on the family wool-growing property 'Murrumbereck' in Minhamite, western Victoria, was inspiration for Claire Hausler to set up the Merineo brand four years ago. The brand's first product was a world-first design of a wool swaddle for newborn babies that embraces the traditional swaddling method and the modern sleeping bag.

"My parents, Ken and Marjorie Hausler and three brothers Alan, Stephen and Glenn are all woolgrowers," said Claire. "By creating the Merineo brand, I want parents to experience premium Merino wool and hopefully become repeat users of the fibre, ultimately supporting the Australian wool industry."

An early accomplishment for Claire's

business was when she teamed up with the Knox Private Hospital in Melbourne to supply Merineo newborn sleep swaddle bags to its newborn babies.

Since the launch of the first Merineo swaddle, the brand's product range has evolved to include sleeping bags for ages up to 24 months and blankets – plus singlets, tops and leggings made from Australian 17.5-micron Merino wool in a cool mesh fabric that is luxuriously soft.

Studies funded by AWI have previously shown that selected superfine Merino wool can help reduce symptoms of child eczema – and this was confirmed when the Eczema Association of Australasia last year published in its *Eczema Quarterly magazine* a product review of Merineo's child clothing.

The review stated that a two-and-ahalf-year-old girl, Eliza from Brisbane, has suffered eczema since she was a newborn. Her mother volunteered to dress Eliza in Merineo's 17.5-micron next-to-skin long sleeved top and matching leggings and do a review.

"The Merineo clothing looked lovely and felt so soft and lightweight, which is important being in Brisbane! The fit was comfortable and not tight because of the stretchiness of the cool mesh fabric," Eliza's mother reported.

"Whilst wearing her new Merineo clothing, Eliza did not rub or scratch her skin!"

More information www.merineo.com

в

в

Merineo's 17.5-micron next-to-skin long sleeved top. PHOTO: Judith Mulderij



The Merino Polo competes on price as well as quality

WA wool buyer Steve Noa has used his experience of 30 years in the wool industry to launch a range of Woolmark-certified Merino wool polo shirts, which he is marketing to businesses, clubs and individuals as the natural alternative to synthetic polo shirts, at a price people can afford.



Without a doubt, Steve Noa loves Australian Merino wool – and he has a long-held desire to see the fibre appreciated and worn by as many people as possible. Recognising the trend towards a more casual style of apparel in the workplace, Steve has launched a polo shirt made from Merino wool, known simply as 'TheMerinoPolo', which competes with synthetic alternatives on price as well as, of course, quality.

"The workplace as we know it has changed dramatically," Steve said. "Corporate and business wear has altered direction in a much more relaxed way. Sure, it's not good for the wool suit market but the versatility of wool can see our great fibre adapt and succeed in this new world.

"The polo shirt has now become the smart casual essential for business, sport and pleasure. It is so incredibly versatile, Westcoast Wool & Livestock's Gavin O'Dwyer and Luke Grant wearing their custom branded Merino polos at work.

but the market is sadly dominated by the synthetic and cotton textile industries. Their polos fit poorly, leave your body suffocating in warm weather or under physical load and require constant washing while remaining in landfill for who knows how long.

"I aim for my new TheMerinoPolo to revolutionise the workplace. It is a versatile, stylish, comfortable and high-quality polo shirt, made at one of the most advanced wool knitting mills in the world, at a price comparable to those synthetic, suffocating, polluting polo shirts available on mass."



Peter Howie and John Stothard of **Dyson Jones** wearing their custom branded Merino polos.

The wool in the current range of TheMerinoPolo can be traced back to several Australian wool-growing properties. The wool was purchased in both Melbourne and Fremantle at auction by Endeavour Wool, Steve being their buyer in WA. The wool was then shipped to one of China's most progressive and modern wool processors. After scouring and top-making, the wool top was spun at Woolmark licensee and industry leader Xinao Textiles and then knitted into garments at Diyang Merino Textile Ltd, also a Woolmark licensee, which specialises in the production of circular knitted Merino wool fabrics.

The polo shirts in the current range weigh less than 150 grams which Steve says makes the garments "feel lightweight and like silk against the skin". They are made using 18.5-micron Merino wool and spun with 13% nylon to enhance durability. These machine washable, short-sleeved and collared polo shirts are available in five colours and several sizes for men and women.

"The qualities of wool have been well told," said Steve, "but there is one particular benefit where The Merino Polo excels: body odour management. We all know or have experienced how poorly synthetics and even cotton handle warm conditions and or moderate activity. TheMerinoPolo will protect you and your colleagues from those 'unpleasant' afternoons, without the requirement to wash after only one or two wears."





Staff at **Karradale Trading** at Varley in the WA Wheatbelt celebrating the completion of the 2021 harvest in December, wearing their custom branded Merino polos.

Steve also aims to soon introduce a slightly heavier weight polo shirt, with 100% 18.5-micron Merino wool, that can be worn in cooler weather.

As well as being available for individual purchase, Steve sells TheMerinoPolo at bulk discount rates to corporates, clubs and businesses, complete with their own logo. Wool brokers Dyson Jones and Westcoast Wool & Livestock are already kitted out in polo shirts, along with other companies such large WA accounting firm Byfields, and farming business Karradale Trading. The polos can also be custom designed in different styles and colours to suit all requirements.

"Think of the great PR for your company in both 'wearing natural' and supporting Australian woolgrowers," Steve said.

"Importantly, TheMerinoPolo is available at a price that individuals and businesses can readily afford. While I applaud the many Australian businesses that have turned their efforts to taking wool from farm to fashion, I consider it important to introduce wool to mass markets that replace uniforms consistently and regularly.

"My aim is to get as many Australian businesses as possible wearing wool, thereby creating significant demand for the fibre each year and building a tangible supply chain for woolgrowers."

More information www.themerinopolo.com.au

Merino at the Marriott

Acclaimed Australian designer Jeremy Hershan designed the uniforms for The Tasman, Marriott International's first The Luxury Collection hotel in Australia, located in historic Hobart and launched in December.

Tasmania is home to some of the finest Merino wool in the world and, working with AWI's subsidiary The Woolmark Company and The Tasman, Jeremy utilised the natural fibre to design a stylish and long-lasting range of staff uniforms that honour the heritage of The Tasman and the island state.

With the assistance of The Woolmark Company, Jeremy sourced luxurious but durable natural fabrications instead of the synthetic variety typical of hotel uniforms. The timeless and luxurious range of designs were informed by the function and duties of the wearer; the uniforms are required to be incredibly robust and withstand daily wear-and-tear as well as fit a broad range of body types.

Located in the historic centre of Hobart, The Tasman promises a rich visual language that brings the local character of the city to life in every detail, including the uniforms which are an integral part of the visual language of hotels and provide one of the first impressions for guests on arrival.

"There is a sophisticated and timeless charm combined with a subtle level of the 'unexpected' throughout the uniforms for The Tasman," Jeremy said. "Tailoring is in my DNA as a designer, and I cut the jackets with generous proportions for ease of movement and a striking appearance. The outerwear features a variety of very functional utilitarian details derived from traditional workwear and there is an interesting combination of stripes, checks and textures realised in luxurious textiles."

AWI's Acting CEO, John Roberts, says Merino wool is a premium and luxurious fibre which is ideally suited for the elegance of The Tasman.

"Furthermore, the fibre has many performance benefits that are ideal for uniforms, including supreme durability, breathability and resistance to wrinkles and odour. It is also a natural fibre, which is not only better for the planet, but also perfectly complements the pristine environment of Tasmania," John said.

Jeremy Hershan began his career by studying fashion design at the worldrenowned RMIT in Melbourne. Shortly afterwards, he honed his tailoring skills on Saville Row in London, including four years as Senior Designer at Alfred Dunhill, before he was lured back to Australia in 2016 to be the Head of Design at R.M.Williams. In 2020 Jeremy launched his own ready-to-wear and accessories business named Haulier.

More information www.thetasmanhobart.com



From the America's Cup to the Gondoliers of Venice



Le performance della lana dall'America's Cup ai gondolieri di Venezia

The **Luna Rossa AC75 yacht** (displaying the Woolmark logo on its sail) in the final of the world-renowned America's Cup in March 2021.

The Venetian gondoliers' new uniform

comprises the same technical waterproof jacket and highly breathable T-shirt used by the Luna Rossa Prada Pirelli crew at last year's America's Cup, with an iconic striped sweater made with 100% Merino wool yarn.



Two successful AWI projects united at the end of last year, with the innovative, highperformance Merino wool fabrics worn by the Luna Rossa Prada Pirelli sailing team at the 36th America's Cup now being worn by the iconic gondoliers of Venice.

A fter an absence of almost a century, in 2017 wool was once again introduced into the uniforms worn by the 433 gondoliers of Venice, thanks to an initiative of AWI together with historic Venetian brand Emilio Ceccato (owned by Italian retailer Al Duca D'Aosta) and the Association of Venetian Gondoliers.

In a 'normal' year, the estimated 60,000 tourists that visit Venice every day can see in action the natural performance fibre, Australian Merino wool, clothing the iconic Venetian boatmen on the city's canals.

Now, the gondoliers of Venice have a new uniform, still containing Merino wool, but comprising the same technical waterproof jacket and highly breathable T-shirt used by the AWI-supported Luna Rossa Prada Pirelli crew at last year's 36th

An eye-catching promotional image of a **Venetian** gondola created to imitate the Luna Rossa AC75 yacht (top) that sails almost entirely with its **hull barely touching the water**. This quirky advert, which also includes Luna Rossa Prada Pirelli team skipper Max Sirena as passenger, was used in a campaign in Italian newspapers and social media to highlight the success of the highperformance Merino wool fabrics. The image also received wide coverage in magazines and websites across the world.



The Woolmark Company celebra i successi di Luna Rossa Prada Pirelli vestendo i gondolieri di Venezia con i tessuti performanti in lana Merino utilizzati dal sailing team.





America's Cup, with an iconic striped sweater made with a new high-performance 100% Merino wool yarn.

AWI's subsidiary The Woolmark Company was the official technical partner of the Luna Rossa Prada Pirelli team during last year's world-famous America's Cup. The Woolmark Company supported the sailing team in the research and development of a Merino wool-rich uniform for the entire team and crew during training and sailing. The project promoted wool as a premium, breathable, water resistant and sustainable fibre on the world stage.

The new Gondoliers of Venice initiative, launched at the end of last year, sees The Woolmark Company once

again partner with the Association of Venetian Gondoliers and Al Duca D'Aosta. AWI's acting CEO John Roberts says the new initiative is another great opportunity to show off the premium qualities of wool in the world-famous setting of Venice.

"Innovation and tradition blend perfectly in this partnership that leverages the technical and sustainable

qualities of wool, creating an exceptional high-performance connection between Luna Rossa Prada Pirelli and the Gondoliers of Venice," John said.

AWI Regional Manager for Central & Eastern Europe, Francesco Magri, says this initiative is another reminder of how a sustainable fibre like fine Merino wool can be used in unexpected ways.

"The 36th America's Cup campaign alongside Luna Rossa Prada Pirelli was a success, not only for the achievements on the water, never achieved before by an Italian team, but to see a technical uniform created by Merino wool in a space traditionally dominated by synthetics," Francesco said.

"Today, thanks to the research and development activities carried out with the Luna Rossa Prada Pirelli team, these innovative and high-performance Merino wool fabrics also dress the historical Venice gondoliers. The new uniform helps them face their work in a sustainable and responsible way, and represents the perfect example of how an innovative, technical solution – sought after for sports where maximum performance is central – often becomes part of everyday life."

The gondoliers' job is strenuous and undertaken in all weathers, so they are thankful that their uniforms are made from such a performance fibre as Merino wool.

"It's been four years now, with the support of The Woolmark Company and Al Duca d'Aosta, that gondoliers wear Merino wool," said the President of the Association of Gondoliers of Venice, Andrea Balbi, in December last year. "We are honoured to be able to wear the same high-performance fabrics as the Luna Rossa Prada Pirelli sailing team. Tradition has truly met innovation."

Shaun the Sheep's merry marketing with wool

Following the success of AWI's previous marketing collaboration with Shaun the Sheep in 2019, AWI reunited with the world's most famous sheep once again to promote the natural wonders of wool, during the 2021 Christmas holidays.



4.3 million

AWI's earlier partnership with Shaun the Sheep during the global roll-out in 2019 of his award-winning movie A Shaun the Sheep Movie: Farmageddon proved to be a winner for wool, with the company's marketing initiative exceeding its targets.

Capitalising on this success, AWI again worked with the animators of Shaun the Sheep, the world-renowned Aardman Animations, to create another short video, celebrating the natural benefits of wool during the recent Christmas festive season. The video was viewed more than four million times.

It was created to coincide with the launch of Shaun the Sheep's latest movie *Shaun the Sheep: The Flight Before Christmas*, which aired at Christmas on TV channels across the world, including the ABC in Australia.

The short video saw Shaun and the flock busily knitting Christmas jumpers from 100% pure wool, naturally, to gift during the holidays.

UK department store Fenwick joined Shaun and friends to celebrate the eco-credentials of wool, creating an edit of seasonal woolly essentials available Shaun the Sheep and his friends this Christmas promoted buying gifts made from wool, the planet-friendly fibre.

in store and online. Fenwick promoted the animation across its nine UK stores including Woolmark branded window displays on London's iconic Bond Street.

"The festive season is an ideal time to champion wool's sustainability message and encourage people to think deeply about what they gift to friends and family. Shaun and his flock choose to gift wool jumpers, knowing this natural fibre is not only long-lasting but its emotional value is strong as it is handed down to from one owner to the next," explained AWI Acting CEO, John Roberts.

Aardman Animations Marketing Director, Lucy Wendover, said the company was thrilled to partner once again with AWI on another Shaun the Sheep film.

"We're delighted to celebrate the gift of giving natural wool jumpers and Shaun the Sheep is the perfect fit. The respect of nature and sustainability are key themes for Shaun the Sheep and increasingly important to the whole studio, so it's great to have this at the heart of the campaign," Lucy said.

More information

www.woolmark.com/shaun-the-sheepchristmas Planet Protector Packaging CEO, Joanne Howarth, says the company is set to expand this year.

Eco-sustainable wool felt packaging

2022 is shaping up to be the biggest year yet for Planet Protector Packaging, the award-winning Australian manufacturer and distributor of insulated packaging made from 100% non-textile grade, coarse wool.

Founded in 2015, Planet Protector has been in the race to become the market leader in thermal packaging that doesn't harm the planet. The company's flagship product, Woolpack, is not only eco-friendly but is also very commercially viable and a cost-effective option for businesses wanting to garner some quick wins around their sustainability and governance. One the company's biggest clients is health supplements manufacturer Blackmores which uses the wool felt liners to transport its temperature sensitive biopharmaceuticals.

Planet Protector manufactures Woolpack packaging using non-textile grade, coarse wool. The fibre's outstanding insulating properties are superior to polystyrene and perfect for keeping the temperature of food, seafood and pharmaceuticals stable during transportation.

"From fresh produce to meal kits, ready to eat meals to fine wines, pet food to chocolate, seafood to pharmaceuticals, Woolpack has been proven to keep contents below 5°C for well over 24 hours and between 2°C and 8°C for 72 hours and beyond," said Plant Protector founder and CEO, Joanne Howarth.

"Woolpack has been independently tested and shown to outperform alternative cold chain packaging in the marketplace. Added benefits of wool include its elasticity and its crimp factor, which offer impact resistance and cushioning to goods in transit. It provides crash protection to packages."

A sustainable product for the circular economy

Joanne says that while the performance of Woolpack is outstanding, it is the ecocredentials of the product that are the key driving force behind the company and a key point of difference from other cold packaging products like polystyrene. "Our mission is to remove polystyrene from our planet by providing cost effective, sustainable, eco-friendly packaging made from wool, which is a natural and renewable fibre," she said.

"No harsh chemicals are used in Woolpack's manufacture. The wool is simply scoured using soap and hot water. This means Woolpack wool felts are 100% biodegradable and compostable, suitable to place in home green vegetation bins or to bury in the backyard, releasing valuable nutrients back into the soil.

"Alternatively, customers find many uses for Woolpack around the home, such as weed matting, pipe lagging, pet bedding, hanging baskets, van panelling... the list goes on."



Company set to expand into regional Australia in 2022

Headquartered in western Sydney, Planet Protector in November 2021 received a \$4.8 million grant from the Australian Government, through its Modern Manufacturing Initiative, that the company will use to open a state of the art \$9.6 million manufacturing, processing and R&D facility in Geelong, Victoria, very close to one of the largest wool scours in the country. It is set to be operational later in 2022.

"The grant will allow our sustainable and thermally stable Woolpack packaging to be manufactured in Australia. We will create jobs and support Aussie wool farmers and regional communities whilst reducing our carbon footprint and creating Australian sovereign capacity to create other circular economy-based wool products."

Less than a month after receiving the Federal Government grant, Planet Protector was announced as the major recipient of another grant, from the NSW Government's R&D Innovation Districts Challenge. With support from Investment NSW and the University of Wollongong, the company received \$250,000.

To round off an exciting couple of months at the end of 2021, Planet Packaging received the NSW Circular Transition Award from the Banksia Foundation at the inaugural NSW Sustainability Awards, supported by the NSW Government, as recognition of the company's achievements in developing a product that helps move the packaging industry from a linear to a circular model.

Joanne says Planet Protector Packaging is actively looking to source coarse wool from cross-bred sheep, but not Merino, that it can use in its Woolpack product. Australian woolgrowers are invited to email enquiries@planetprotectorpackaging. com to express their interest in supplying the company.

More information

www.planetprotectorpackaging.com

Wool as 'green' insulation for the car industry

A researcher at Deakin University in Geelong, Victoria, has won an international award for her team's creation of a lightweight, non-woven, wool insulating fabric that can be used in automobiles as a 'greener' alternative to current synthetic-based insulation.

Senior Research Fellow, Dr Maryam Naebe, from the Institute for Frontier Materials (IFM) at Deakin University was presented with the 2021 Discover Natural Fibres Initiative (DNFI) Innovation Award in January this year.

Her team's development of the wool insulation is being conducted in partnership with Ford Motor Company (USA) for possible installation in Ford vehicles. Testing is under way to scale up and refine the production process of the insulating fabric, which is made from a blend of virgin and waste wool fibres. The wool for the project was sourced from the Geelong region.

The new wool insulation could be used for applications including floor coverings, under the seat covers, door trims, pack panels, engine compartments and on ceilings.

"The majority of car insulators are currently made using petroleum-based microfibres, which aren't sustainable, and contribute to ecological issues," Dr Naebe explained.

"With stricter environmental regulations closing in, leading car manufacturers like Ford are moving towards replacing polyester, polyethylene and polystyrene car interiors with lighter, natural fibre options."

However, the range of natural fibres that are suitable for the multiple requirements of a car interior (eg insulation, aesthetics and comfort) is limited. A major challenge of the project included developing a natural fibre replacement with the same sound absorption, thermal resistance and air permeability benefits as a synthetic car insulator.

But the researchers found that wool is ideal. "Wool is a natural product, and its unique fibre structure gives it inherent thermal and acoustic insulation properties, which makes it a very promising candidate for sustainable insulation," Dr Naebe said.

"The wool insulation we have developed offers a high performance, cost-effective, low carbon footprint and biodegradable alternative for synthetic insulation, which the automotive industry needs, while also being naturally flame retardant and odour-resistant."

Dr Maryam Naebe, **Deakin University**

The IFM researchers went through a raft of testing methods and fibre mixing variations before they were able to land on a final product by using blended virgin and waste wool fibres covered with a thin non-woven fabric via needle-punching. Needle-punching is a large-scale nonwoven manufacturing method that uses the mechanical interlocking of fibres for bonding; it is a simple and low-cost alternative to other non-woven web bonding methods.

"The wool insulating fabric we developed showed similar sound absorption, thermal resistance and air flow qualities to the current synthetic textile options, while wool also offers the added benefits of being naturally odour-resistant, flame retardant and antibacterial," Dr Naebe said.

"This is the first time that a nonwoven wool fabric has been developed that meets the sound and thermal insulation requirements for automotive insulation.



DNFI Innovation Award winner Dr Maryam Naebe of Deakin University.

"The outcome of this work will provide environmentally superior insulation material that's perfectly suited for the emerging era of affordable, sustainable transportation.'

Considering the enormous annual volume of car production, and the corresponding use of insulation materials, this new wool product could potentially create significant demand for the fibre.

Ford Motor Company sustainable and advanced composites technical expert Dr Alper Kiziltas says the new wool insulation is a high quality and durable material that provides a quiet ride.

"Ford is constantly looking for more sustainable alternatives to the petroleumbased plastics in order to lower our environmental footprint, reduce ocean and landfill plastics and provide more natural materials for our customers," Dr Kiziltas said.

The IFM and Ford Motor Company research results were published last year in the journal Materials.

The DNFI was created in January 2010 as an outgrowth of the International Year of Natural Fibres 2009, declared by the United Nations General Assembly. The purposes of DNFI are to advance the interests of all natural fibre industries and to encourage increased use of natural fibres in the world economy. The annual DNFI Innovation Award was first awarded in 2017. в

More information

www.dnfi.org www.deakin.edu.au

Woolmark partners with Development Centres in Europe

AWI is partnering with three **Development Centres in** Europe that each provide a collaborative hub for the fibre, textile and apparel industries to learn about the natural benefits, versatility and technical possibilities of Australian wool.

WI subsidiary The Woolmark Company A WI Subsidiary The Western has partnered with the three Western Hemisphere Development Centres to help connect brands and manufacturers in the region with the supply chain and thereby help build new collaborations, commercial opportunities and demand for Australian wool.

The three new Woolmark Development Centres in Europe complement the following

D-House Urban Lab

MILAN, ITALY

OFF

long with several other companies. The A Woolmark Company has partnered in Italy with D-House Urban Lab, a venture of Dyloan which is an Italian company that specialises in manufacturing technologies for fashion, art and design.

D-House Urban Lab, located in the centre of Milan, has been created to bring innovation to the world of fashion. It is a place for meeting, training, innovation and Woolmark Development Centres in the Eastern Hemisphere, in China, which have already been operating for several years:

- Wool Resource Centre, Hong Kong
- Nanshan Weave Centre, Shenzhen
- Xinao Knitwear Development Centre, Zhejiang
- Donghua Wool Education Centre, Shanghai.

At the Woolmark-partnered Development Centres, The Woolmark Company is able to present its key services to those along the supply chain. These services include:

- Research and development creating new product and processing innovations for Australian wool.
- Sourcing providing the supply chain with direct access to the global wool manufacturing industry, The Wool Lab sourcing guide and bespoke material sourcing.

- Technical support giving partners access to AWI's dedicated technical team that has specialist knowledge in all areas of the supply chain and is available to assist with technical transfer, troubleshooting, and process and product development.
- Marketing promoting the performance and environmental benefits of Australian wool to ensure industry and consumers are informed and inspired to make better purchasing choices.
- Woolmark certification providing independent certification for quality wool products and the world's most iconic textile fabric brand, the Woolmark logo.

More information

www.woolmark.com/developmentcentres

sustainability, with a strong technological component and international scope.

It aims to be a platform that engages with the whole product system from R&D. business to business partnerships, education, showroom, thought leadership, product marketing and communications.

At D-House Urban Lab. industry and students can take advantage of the skills nurtured by the pool of cuttingedge companies, including The Woolmark Company, on the themes of digital manufacturing and sustainability. It is a true cutting-edge ecosystem in which Dyloan's skills are integrated with those of its partners to give personalised and exclusive opportunities to customers.

> As well as having its own wool display at D-House

Urban Lab, The Woolmark Company holds exhibitions of some of its innovative product developments. Brands and other companies along the supply chain are able to arrange visits to the exhibitions and meet with The Woolmark Company staff to learn more about the benefits of working with wool.

The first exhibition, held 11 November to 10 December, was a display of its 'Wool to Go' tailored knitwear collection (see the June edition of Beyond the Bale). The collection comprises outfits that provide a modern and urban take on the classic formal look using knitted fabrics, rather than traditionally used woven fabrics. The garments are a showcase of the latest knitting technology from Shima Seiki as well as Woolmarkcertified Merino wool yarns.

An exhibition currently under

way, running from 24 January to 22 April, showcases the latest wool footwear developments, including innovative wool yarns and commercial products from The Woolmark Company's partners. Innovations in both product and

processing have driven new opportunities for wool in the footwear industry. в

More information https://en.d-house.org





which it ran nine screenings of the Fashionscapes: A Circular Economy documentary (see the December edition of Beyond the Bale) and each time had the opportunity to introduce on stage the work of The Woolmark Company and the benefits of wool.

> Another recent event at La Caserne was the presentation of a Wool Masterclass by The Woolmark Company and three of its partners. Titled 'Wool: a sustainable and circular fibre', the presentation outlined wool's sustainable solutions along with

practical case studies and strategies for supply chain partners.

Last month provided another highlight at La Caserne, with the hosting of an event of Woolmark licensees and delegates that were attending the Première Vision textile trade show in Paris. The event provided one of the first opportunities since the COVID pandemic for key people in the wool industry to gather together in person and discuss opportunities for wool.

More information www.lacaserneparis.com

La Caserne

PARIS, FRANCE

he Woolmark Company is a key partner of La Caserne, which is a new hub for sustainable fashion that aims to help brands improve their sourcing and traceability.

Located in the centre of Paris, La Caserne is also supported by leading fashion companies such as French luxury group Kering (which owns brands such as Gucci and Saint Laurent) and Chargeurs, as well as institutions including the French Institute of Textile and Clothing, the French Institute of Fashion and the Federation of Haute Couture and Fashion.

The Woolmark Company has a dedicated showroom, within the Raw Materials Showroom at La Caserne, offering expert insight into the eco and circular benefits of Merino wool, as well as innovations in product development, and assistance with sourcing commercially

available wool fabrics and yarns. The company's placement within the La Caserne ecosystem will help the development of new business opportunities for Australian wool with key brands and stakeholders.

As well as providing space for showrooms, La Caserne hosts workshops and events at which The Woolmark Company promotes the natural benefits of wool.

One of La Caserne's first official events was 'The Conscious Festival' which is a high profile educational and promotional event about sustainability. The Woolmark Company was a co-sponsor of the event, at

Windows of Textile **Opportunities**[™]

AMSTERDAM, THE NETHERLANDS

he Woolmark Company has joined forces The woomnark company and your with leading textile innovator Byborre and other textile industry change-makers to create and launch The Window of Textile Opportunities[™] (WoTO[™]) in Amsterdam.

WoTO[™] is a year-round textile showroom where its partners can exhibit their latest textile offerings and get instant access to a community of innovative brands. WoTO™'s partners include, amongst others, The Woolmark Company, knitting machine manufacturer Santoni, and spinners Südwolle Group and Xinao.

With its goal for the textile industry to be "creating more consciously for a healthier earth", WoTO™ helps its partners provide access to their knowledge, textile development process, design tools and responsible fibres. It fosters long-term partnerships, supply chain transparency and material traceability.

The Woolmark Company's partnership at WoTO[™] is aimed at bringing novel wool products to market, by connecting industry pioneers whilst collaborating with unique and engaged commercial creators.

As well as being a showroom for collaborators, WoTO™ also hosts workshops, educational programs, symposiums and

panel discussions amongst other events. For example, it hosted in December a virtual symposium and panel discussion titled 'Transparency in a broken industry'. The Woolmark Company was one of the three keynote presenters, discussing how wool is an avenue for brands pursuing a sustainability strategy.

The ultimate goal for WoTO[™] is to enable and educate an entire generation of creators to design more fit for purpose and responsible textiles. Therefore, to connect with the changemakers of the future,

WoTO[™] has also formed partnerships

with leading universities across the world, including FIT (Fashion Institute of Technology) and Parsons School of Design in the USA, the Amsterdam Fashion Institute and the London College of Fashion, amongst others. This aligns with The Woolmark Company's strategy to connect the next generation of textile innovators and talent and equip them with a knowledge of and love for wool. в

More information www.byborre.com/woto

Protection wear meets urban knits

AWI has collaborated with knitting machine company Shima Seiki Italia and four Merino wool yarn manufacturers – Tollegno 1900, Zegna Baruffa Lane Borgosesia, Südwolle Group and Loro Piana Yarns – to create a new knitted capsule collection inspired by protection wear.

The new capsule collection comprises four outfits that highlight the suitability of Merino wool as the ultimate natural and performance fibre suitable for a modern, urban look. The garments are a showcase of the latest knitting technology from Shima Seiki as well as Woolmark-certified Merino wool yarns.

The collection will provide an inspiration for manufacturers and brands along the textile supply chain to develop innovative garments not only in the protective workwear market but also for the urban fashion sector popular with millennials.

The concept for the collection was the idea of AWI and Creative Director of Shima Seiki Italia, Vittorio Branchizio, and follows on from a collaborative project last year between the two companies, which developed an innovative tailored knitwear collection (reported in the June 2021 edition of *Beyond the Bale*).

The collection was on show on The Woolmark Company's stand at last month's Milano Unica trade show for high-end textiles. This is the first physical trade show at which the company has exhibited since the COVID-19 pandemic. The trade show also saw the launch by The Woolmark Company of the latest edition of The Wool Lab sourcing guide, the world's best curated collection of commercially available wool fabrics and yarns.

Merino wool shows its versatility

The new protection wear collection was inspired by the Workwear 'Protection Wear' theme in The Wool Lab sourcing guide and aligns with the trend towards workwearinspired designs at the latest fashion shows.

"Changes in the market have led to a new desire for practical and durable clothing that provides a level of safety and utility, while retaining a stylish aesthetic," said AWI Research & Development Manager for Europe, Birgit Gahlen. "Merino wool not only has the ecobenefits of being a natural, biodegradable and renewable fibre, but it also has many performance advantages such as breathability, moisture management, insulation, elasticity, comfort and durability. This collection highlights the positive ecocredentials of Merino wool as well as its technical strengths and modern design."

While comprised predominantly of Merino wool, the outfits in the collection also include some other technical yarns, such as Cordura® and Kevlar®, which demonstrates Merino wool's versatility for blending.

Innovative and eco-friendly knitting technology

The garments were knitted on Shima Seiki machines to produce garments that have a high performance and innovative aesthetic.

"The synergies that arise by creating these projects are very important," said Vittorio Branchizio. "The collaboration between AWI and Shima Seiki Italia enables us to carry out innovation and research projects throughout the supply chain to showcase the enormous potential of Merino wool.

"We start our design process directly with the wool fibre and mix it to create new materials and structures that with the Shima Seiki technology we bring to maximum expression. Using all the programming processes on Shima Seiki Apex software, both 3D and CAD, we are able to minimise yarn wastage and achieve our desired goal."

The production process is an environmentally friendly one that avoids the traditional cut and sew technique and uses exactly the correct quantity of yarn, thereby resulting in less yarn wastage than traditional garment manufacturing. In this particular project, all the yarn suppliers were European which helped



Jacket and trousers made using yarns from Südwolle Group

The jacket and trousers were made using a blend of one of Südwolle's Omega Twist Spinning Technology OTW® yarns that comprises 48.5% 22.5-micron Merino wool blended with 48.5% Cordura® polyamide and 3% polyamide filament to enhance the wool's durability, abrasion resistance and strength. The jacket and trousers were knitted using a Shima Seiki flat knit machine, inlayed with inserts of Kevlar® yarn for abrasion resistance with details providing high visibility.

minimise its environmental and financial costs of transportation.

More information

www.woolmark.com/protectionwear

Reversible hoodie and trousers made using yarns from Tollegno 1900

This reversible zipped hoodie and trousers were made using a 19.5-micron high twist Merino wool yarn. The reversable hoodie was knitted on a Shima Seiki WHOLEGARMENT® flat knit machine, which allows a double knitting of the single pieces, combining wool and technical yarn, to create a different look on each side of the garment. The trousers were knitted using another Shima Seiki machine using the inlay technology combining wool and technical yarns to provide a more compact fabric.

Dress made using yarns from Loro Piana Yarns

The dress was knitted using an ultrasoft 15.5-micron Merino wool yarn from Loro Piana Yarns on a Shima Seiki WHOLEGARMENT® flat knit machine to produce a completely seam-free garment. The side split and a split behind the neck are created directly by the WHOLEGARMENT® knitting machine. High visibility yarn is directly inlayed on the front and back to also add strength and rigidity.

Wool education program in China

AWI teaches the science and technology of wool processing to textile engineering students in China to help ensure that the country's mills can manufacture quality products made from Australian wool.

A ustralian woolgrowers take great pride in producing the world's best quality wool, but to ensure consumers can buy quality end products, it is also important that Australian wool is properly processed. Most Australian wool is processed overseas, mainly in China, and it is in the interest of Australian woolgrowers that the people who work with it there understand all about its attributes and the technology used to process it.

From its initial beginnings in China at Yantai-Nanshan university (YNU) in 2014, the Woolmark Wool Science and Technology Education Program (WoolSTEP) has grown to seven courses which can be delivered in a traditional manner by university educators and The Woolmark Company staff.

The course are: (1) Wool fibre science, (2) Introduction to wool processing, (3) Raw wool scouring, (4) Worsted top making, (5) Worsted and woollen spinning, (6) Dyeing of wool, and (7) Wool fabric finishing. The courses are also accessible on the Woolmark Learning Centre in English and it is anticipated that the Chinese language courses will be added through 2022.

In the recent 'Autumn term', the third-year students at YNU completed the program, having studied the various courses during the past two academic years. Studying the WoolSTEP courses in a foreign language has challenges beyond the task of coming to terms with the complexity of the wool fibre and its processing. During the past two years, lectures and tutorials have had to be conducted by The Woolmark Company staff using online conferencing facilities. The performance of the students who all completed the courses during this COVID-restricted time speaks to their diligence and abilities.



Ms Feng Chunyan (left), who received 'completed with commendation' awards for all the courses in the wool education program, with YNU's Ms Gao Xiaoyan.

Jacket coat made using yarns from

This jacket coat was made using a 19.5-micron high twist Merino wool yarn and knitted using a Shima Seiki flat knit machine. Kevlar® yarn is used on the front, back and elbows to provide protection and high resistance.

Zegna Baruffa Lane Borgosesia

All students have been well supported by teaching staff from the university. Ms Gao Xiaoyan has been responsible for the WoolSTEP at YNU, acting as translator and working closely with The Woolmark Company's Dr Allan De Boos to ensure the delivery of the program. The Nanshan Group through Mr Wang Sheng has also supported the program by providing staff time and facilities to allow students to see a genuine worsted mill in action.

The courses will be continued in the 'Spring term' for the current second-year students.

More information

www.woolmarklearningcentre.com

В

Technology successfully traces Aussie wool to final product

From sheep to shop: AWI and Everledger have successfully tested a system to trace the source and journey of Australian wool through to the end products. *PHOTO (right):* gilaxia

AWI and pioneering technology company Everledger have collaborated on a project to successfully track selected Australian wools as they move along the supply chain from farm through to finished product. The project ultimately aims to enable retailers and end consumers to easily check whether a product is made from world-renowned Australian wool.

A ustralian woolgrowers have made great advancements in wool production during the past two hundred years, and today they are justifiably proud of their tradition of excellence. Australia is well known for producing wool that is regarded as being the finest and softest wool produced anywhere – the country produces about 90% of the world's fine apparel wool.

However, sharing the excellence and provenance of this premium natural fibre with the end consumers of a product can be difficult because the raw fibre goes through so many hands and processes from farmgate before it is ends up in a product available at retail.

Being in such a competitive industry as fashion with so many other natural and synthetic fibres on the market, it is important that Australian wool's reputation for quality, authenticity and low ecofootprint be actively protected as it travels further from its point of origin. This will create new sources of value for woolgrowers, manufacturers and retailers, as well as transparency for end consumers.

AWI is therefore working to promote the traceability of global supply chains so that all stakeholders and consumers understand the full value of a product made from Australian wool. Recently, AWI and digital transparency company Everledger successfully completed a 'proof of concept' that uses 'blockchain technology' to track and validate the exchange of ownership of selected wools as they move along the supply chain from farm through overseas processing and manufacturing to finished products. "This project has proved the feasibility of new technology to ease the flow of information up and down the supply chain to all parties, and so communicate wool's benefits to a wider audience."

John Roberts, AWI Acting CEO

Different participants at each stage of the supply chain connect through the Everledger platform. This offers value to all parties, whether that is attracting new buyers or higher prices for woolgrowers, enabling verifiable information for certifiers and regulators, or equipping apparel brands to have a robust point of difference with their finished garments.

Recorded evidence is used to provide more confidence on the authenticity and provenance of a product. Ultimately, a retailer or end consumer will have access to information that allows them to see evidence of how the original wool was sourced and processed throughout its journey.

Brands involved endorse the project

APG & Co, which has a portfolio of wellknown Australian brands – Sportscraft, SABA and JAG – was a participant in the traceability platform's proof of concept.

"The need for fully traceable apparel supply chains is of paramount importance not just for our business but for our customers as well," said APG & Co's Social and Environmental Manager, Genevieve Moody. "Due to the complexity of supply chain tracing, it was great to work directly with AWI and Everledger to see genuine traceability improvements. Being a part of the proof of concept has not only allowed us access to a fit-for-purpose tracing solution, it has also provided the opportunity to discuss ethical and sustainability data collection points we would want to have integrated in future.

"It has been enlightening to be involved in the development of the tool, which can guarantee the authenticity and reputation of our claims. We look forward to continuing our engagement as this work matures into an industry solution."

Pioneering traceability for the Australian wool industry

AWI Acting CEO John Roberts says that he is delighted with the successful proof of concept and that it has generated insights from market participants about the value of the traceability project.

"What is clear from this proof of concept is that there is demand from stakeholders across the value chain for the wool industry to deliver on traceability, and we look forward to advancing on the gains made here as well as the recommendations made in the 'Traceability in the Australian Wool and Sheep Industry' report published in December by WoolProducers Australia, for the benefit of Australian woolgrowers."

Founded in 2015, Everledger is an award-winning global company headquartered in London.

"Traceability used to be considered a 'nice to have'; now in multiple supply chains and across many material types, it is essential," said CEO of Everledger, Leanne Kemp.

"We love working with visionary partners. AWI is taking a lead for other traditional industries in Australia to follow, and in doing so demonstrates both responsible leadership and an acute vision to see how blockchain combined with other technologies can generate significant economic value and sustainability."

AWI WORKING TO SUPPORT THE FUTURE OF AUSTRALIAN WOOL-GROWING

111 13223

3 8 2

Australian Wool Innovation Limited

WI is funding training for shearers and wool handlers, to attract and retain new entrants into the wool harvesting industry – see

'Wool is the solution to the future of sustainable fashion. I know the benefits of this luxurious fibre, and I have a desire to be a leading advocate for the future of the wool industry." **Florance McGufficke**

AWI Emerging Young Leaders Scholarship winner

Florance McGufficke, who grew up on a sheep and wool enterprise in southern NSW, is on a mission to improve communication between consumers and wool producers.

Young woolgrower Florance McGufficke from Cooma in NSW is the winner of an AWI scholarship through which she will become a trusted ambassador for the Australian wool industry.

he AWI 2022/23 Emerging Young Leaders Scholarship will allow Florance to participate in the prestigious Cultivate -Growing Young Leaders program run by Action4Agriculture. This two-year training package will give Florance exposure to some of the country's top media and communication specialists and equip her with skills to accelerate her journey in agricultural leadership.

Florance grew up on a sheep and wool enterprise near Cooma in Southern NSW and spent her early years in 'daddy-daycare' following her father around the sheds and paddocks. It was a formative time for Florance who has gone on to complete a double degree of Bachelor of Agriculture and Business at the University of New England, and stands at the cusp of a career in the wool industry.

"I believe this scholarship will help me navigate a future in this fast and progressive world with self-confidence and resilience," Florance said.

As part of the scholarship, Florance will hone her skills by engaging with school students as part of The Archibull Prize and the Kreative Koalas – Design a Bright Future Challenge. Once graduated from the Cultivate – Growing Young Leaders program, Florance will join the Young

amount of misconception between the

Farming Champions, a network of early professionals advocating and leading for agriculture.

AWI Acting CEO, John Roberts, says this year marks a decade since AWI first started supporting the Young Farming Champions program.

"Through Action4Agriculture, the program continues to not only help build the capability of young rural people to farm with resilience and confidence, but also provides a great platform to spark the next generation's interest in an agricultural career," John said.

'We are delighted that Florance has been chosen to receive the 2022 AWI scholarship and be trained to become a local face of sustainable wool production. The program is a great way to not only communicate the positive messages of the wool industry to the wider public, but also encourage youngsters into the industry."

A selection of Young Farming Champions alumni that have been supported by AWI through the program in the past includes 2021 NSW RAS Rural Achiever veterinarian Dione Howard, 2019 Australian Woolbroker of the Year Samantha Wan, and winner of the Leadership category of the 2018 Victorian Young Achiever Awards, Dr Jo Newton OAM.

"The Young Farming Champions have the ability to empower young people to embrace rural and regional Australia, to explore the supply chains and diverse agricultural enterprises, and share this information with various audiences to increase transparency and reduce the producer and consumer," Florance added. 国

The other finalists that were in the running for the AWI 2022/23 Emerging Young Leaders Scholarship were:

Katie Barnett, Kempsey, NSW

"I am proud to be part of an industry where sheep turn grass, water and sunshine into wool - a natural fibre that will last for years and years in your wardrobe, needs less washing, is fire resistant, breathable, recyclable and biodegradable and does not contribute to microplastic pollution."

Savannah Boutsikakis, Grabben Gullen, NSW

"Agriculture today is an exciting web of careers that feed and clothe and provide people with renewable energy."

Kate McBride, Menindee, NSW

"The variety in work our industry offers is unrivalled in my opinion. From sheep yards to think tanks, board rooms to Parliament House, agriculture offers it all."

Miranda McGufficke, Cooma, NSW

"I have so much passion and admiration for these animals and their capacity to grow nature's most environmentally sustainable fibre."

Jamie Pepper, Hamilton, Victoria

"In a post-pandemic world, the future of agriculture is very bright and exciting. With stable commodity prices, positive cash flows and equity, farmers including myself are able to reinvest back into our businesses."



The 'automatic module' (above) and the' manual module' (below).





The AWI project to develop a system that delivers sheep directly to the shearer, thereby eliminating the catch and drag from the pen, is progressing well. In addition to the 'automatic module', a simpler and cheaper 'manual module' is also being developed.

The modular sheep delivery unit being developed will not only eliminate the time and energy that shearers spend having to walk to the pen, catch a sheep and drag it back to the shearing stand, but it also minimises the chance of injury to the shearer from the dragging and twisting movements.

The design focuses on a 'modular' concept in which portable singular shearing stands can be joined together to make a multi-stand shearing platform, which can be stored away after use. Each modular unit holds three sheep in a race at the back of the unit. A dummy pen is fitted onto the end of the race to assist with the flow of the sheep.

As previously announced in the September 2021 edition of *Beyond the Bale*, an **automatic module** is under development that contains a pneumatically powered delivery section that, at the press of a button, moves out from the race and then tilts the sheep into a position suitable for the shearer to then easily retrieve the animal.

However, there is also a **manual module** under development. The delivery race is very similar to the automatic module's race, except that in the race there is a simple gate, in place of the automatic delivery section. The shearer simply opens the gate and collects the sheep from the race and manoeuvres the sheep the metre or so to the centre of the board before starting shearing.

For both modules, an angled shoot allows for simple release of the shorn sheep underneath the race – again without significant dragging or twisting.

Further development and testing of the modules continues.

More information

www.haynesengineering.com.au

差 🖱 BEIYUAN

superior wool entry + cut

Snow Leopard shearing combs

available at your local stockist visit www.beiyuan.com.au or call 1800 777 454

Wool harvesting technology

Battery-operated, smart shearing handpiece



The new **battery-operated handpiece prototype** being trialled in December at the TAFE Dubbo Rural Skills and Environment Centre by AWI shearer trainer **Elliott Learmonth**, who said: "I think the handpiece was great. It was nice and light and it was a lot thinner. I could feel the skin of the sheep a lot more and it seemed I had a lot more manoeuvrability with it because it was smaller."

Under development through AWI funding is a lightweight, batteryoperated shearing handpiece which also integrates sensing technology such as a comb tension sensor to make shearing easier, especially for learner shearers. A^{WI} is working with a design company, Ac Design, to develop a batterypowered smart shearing handpiece. (4c Design's prior work includes the development of the Numnuts® hand tool.)

The new handpiece, if successfully completed and commercialised, has the potential to make shearing available to less experienced shearers. On-farm testing and validation of a prototype handpiece is currently under way and trials continue.

4c Design researchers have manufactured an aluminium handpiece, which is more lightweight and has a slimmer barrel and a more ergonomic design than a traditional handpiece.

The researchers have created a drive system, battery, motor, and motor controller to deliver the same power and level as overhead motors. The long-life battery pack is mounted on a belt worn by the shearer. There is option for the shearer to regulate/turn up the power.

Integrated sensing technology in the handpiece will potentially inform the shearer when power is running low, when they need to change gear for a better cut and whether the shearer has got the comb tension right when setting their gear.

With a traditional handpiece, learner shearers often struggle to know whether they have enough tension. It is a skill that takes time to master, and learners can get frustrated with such problems. While having a sensor on the handpiece will assist all shearers, it will remove a reason for learner shearers to get discouraged and leave the industry.

Using technology to prevent shearing injuries



Researchers testing out placements of **fatigue and motion sensors** that could help alert shearers to potential injury.

To help prevent injuries and retain shearers in the industry, AWI-funded research continues into wearable technology that will potentially provide shearers with an early warning system for fatigue-triggered injuries.

A ttracting and retaining shearers is one of the biggest challenges facing woolgrowers and the industry. A major factor is that shearing can be a 'backbreaking' profession, with injuries to shearers being six times the all-industry average in Australia.

Back injuries are the most significant of all injuries due to their long rehabilitation

Don't just leave the new shearing shed idea as a picture on the wall.



Avoid labour shortages and unsafe, inefficient wool handling by investing in a new shearing shed and fitout.

1800 687 888 ACTIONSTEEL.COM.AU time and associated lost productivity contributing to 50% of shearing injury costs.

To enable an adequate supply of shearers in Australia, it is important to keep shearers in the industry for longer, so AWI is funding research to understand how injuries happen and why.

Pioneering and high-tech studies funded by AWI and undertaken by the University of Melbourne's Department of Mechanical Engineering into shearers' muscle fatigue and range of movement has already identified several important features that could provide an early warning of back injuries. The research project continues with funding by AWI and an Innovation Connections grant from the Federal Government.

In the first phase of the project, researchers fitted shearers with 33 sensors to better understand the causes of shearing injuries, but the researchers have since been able to cut that number down to just four key sensors (two on muscles in the lower back and two motion sensors) which makes it more suitable to the practical setting of a shearing shed.

The project aims to further develop and fine tune a portable wearable sensing unit (for example, a shearing top with the sensors already incorporated in it, so the shearer would not have to physically place the sensors on themselves) and software to enable data collection. The unit worn by the shearers will alert them (via a display on a smartphone) when they are becoming vulnerable to potential injuries and propose optimal resting cycles.

This simplified sensing unit continues to be validated across a pool of shearers under different working conditions.



More information

Hear more about the research in Episode 210 of AWI's *The Yarn* podcast available at **www.wool.com/podcast**

Semi-autonomous wool handling system

Wool handling is a highly manual and repetitive task. However, modern sensors, industrial controls and engineering developments over recent years are now being examined to potentially improve efficiency in the shearing shed.

A three-year AWI-funded project to design, build and test components of a semi-autonomous wool handling system is being undertaken by the UTS Faculty of Engineering and IT. The project aims to cover the steps from the wool table through to baling.

A wool classification system consisting of a prototype digital microscope system has been developed, employing image processing and edge detection algorithms for automated fibre recognition and mean fibre diameter extraction for untreated wool samples.

The team from UTS has worked on mechanical separation of contaminated edge wool (skirting) from higher value wool with several techniques being assessed.

Research into the semi-autonomous wool handling system continues.



A **wool inspection table** was set up at the TAFE Dubbo Rural Skills and Environment Centre and was trialled in December by researchers with assistance from AWI wool handler trainers.

Sheep Crutching



We specialise in mobile crutching systems, with one to three stand models available. No bending, no dragging, *less swearing!*

Sheep Handling



The DrenchMaster makes jobs like drenching, vaccinating, capsuling, mouthing and backlining much quicker and less demanding on the body.



For more info, check out our website at www.perkinz.com.au

Shearer and wool handler training courses

AWI funds training for shearers and wool handlers to attract and retain new entrants into the wool harvesting industry, build the capacity and longevity of existing staff, and increase returns to woolgrowers through improved clip preparation practices.

Adequate numbers of highly skilled professional staff to harvest and handle a high-quality Australian wool clip in a timely manner are key to the profitability of the Australian wool industry.

"AWI regularly funds and supports hands-on practical in-shed training for shearers and wool handlers to attract and retain new workers, as well as increase their productivity, skills and professionalism," said AWI Program Manager, Wool Harvesting Training and Development, Craig French.

"However, due to the current shortage of and demand for shearers, which has been made worse by COVID-related restrictions, there is a concerted effort to run extra novice and improver training, funded by AWI and several state governments.

"Furthermore, best practice in shearing sheds results in a high-quality wool clip for the woolgrower and superior health and wellbeing of both professionals and sheep."

AWI thanks all the woolgrowers who provide their facilities and sheep, and all the other organisations and individuals that lend their time and resources to help run this training.

In Victoria and South Australia, the training is provided by the Shearing Contractors Association of Australia (SCAA) Shearer Woolhandler Training Inc.

Opposite is a list of training scheduled nationwide for 2022. All the training aligns with nationally recognised qualifications and are designed to meet industry standards and needs.

More information

 To register for upcoming training in New South Wales, Western Australia, Tasmania or Queensland, phone AWI on 1800 SHEARS or email swt@wool.com

в

- To register for upcoming training in Victoria, phone the SCAA on 1300 787 984 or email **admin@swti.edu.au**
- To register for upcoming training in South Australia, phone Josh Sneath on 0419 176 750 or email Iselig@swti.edu.au



An AWI course for 15 improver shearers and wool handlers, held in November 2021 at **Pine Ridge Station** at Packsaddle in far west NSW.

NEW SOUTH WALES

- January to June 2022 – dates and locations for the latter six months of the calendar year are still being finalised.

COOMA	10–14 January	Novice
WALBUNDRIE	10–21 January	Novice
YASS	17–21 January	Novice
GLEN INNES	24–28 January	Novice
BREWARRINA	24 January – 4 February	Improver
CANAWINDRA	31 January – 4 February	Novice
TAMWORTH	14–18 February	Novice
WARREN	28 February – 4 March	Novice
DUBBO	28 February –4 March	Novice
STEAM PLAINS	7–17 March	Novice
DUBBO	7–11 March	Improver
BUNDARRA	14–18 March	Improver
QUANDIALLA	14–18 March	Novice
YOUNG	11–15 April	Novice
INVERELL	11–15 April	Novice
CROOKWELL	18-22 April	Novice
ARMIDALE	2–6 May	Novice
NYNGAN	2–13 May	Improver
ARMIDALE	9–13 May	Novice
COOMA	9–13 May	Novice
COOMA	16–20 May	Novice
DUBBO	16–20 May	Novice
DUBBO	23–27 May	Improver
GLEN INNES	23–27 May	Novice
IVANHOE	23–27 May	Novice
URALLA	23–27 May	Novice
HARDEN	13–17 June	Novice
DUBBO	13–17 June	Novice
TENTERFIELD	20–25 June	Novice
LIGHTNING RIDGE	20–25 June	Improver

VICTORIA		
BALMORAL	17–21 January Novice	
GYMBOWEN	31 January – 4 February	Novice
BENDIGO	14–18 February	Novice
DOOKIE	7–11 March	Novice
DOOKIE	21–29 March	Improver
HAMILTON	19-22 April	Improver
HAMILTON	2-6 May	Novice
BALLARAT	9–13 May	Novice
INGLEWOOD	6–10 June	Improver
MANANGATANG	27 June – 1 July	Novice
OMEO	18–22 July	Novice
TELOPEA DOWNS	1–5 August	Improver
WYCHEPROOF	8–12 August	Novice
WEDDERBURN	12–16 September	Novice
PENSHURST	10–14 October	Novice
DOOKIE	17-21 October	Improver
BAIRNSDALE	7–11 November	Novice
NATHALIA	14–18 November	Novice

WESTERN AUSTRALIA		
RYLINGTON PARK	17–21 January	Novice
PEEL	31 Jan – 4 February	Improver
ESPERANCE	7–16 February	Novice/ Improver
RYLINGTON PARK	14–18 February	Novice/ Improver
RYLINGTON PARK	28 February – 4 March	Novice
RYLINGTON PARK	4–8 April	Novice
BOYUP BROOK	11–21 April	Improver
ESPERANCE	11–22 July	Novice
BOYUP BROOK	8–19 August	Improver
RYLINGTON PARK	3–7 October	Novice
RYLINGTON PARK	23–28 October	Novice
RYLINGTON PARK	14–18 November	Novice/ Improver
RYLINGTON PARK	5-9 December	Novice

SOUTH AUSTRALIA KONETTA 24 January – 4 February Improver KONETTA 7–18 February Improver WILLALOOKA 7–11 February Novice MARRABEL 21-25 February Novice PENONG 7–11 March Novice PANDURRA 7–18 March Improver **PINNAR00** 28 March – 1 April Novice LANGHORNE 4–8 April Novice **CREEK** TEETULPA 9-20 May Improver **OAKDEN HILLS** 16 May – 3 June Improver JAMESTOWN 6-10 June Novice **WILLALOOKA** 4–8 July Novice (PININDI) CUMMINS 25-29 July Novice KAROONDA 8–12 August Novice YORKE 12-16 September Novice PENINSULA ROSEWORTHY 26-30 September Novice CAMPUS FURNER 24-28 October Novice PARNDANA KI 5-9 December Novice

TASMANIA		
BEAUFRONT	21–25 February Novice	
BEAUFRONT	28 February – 4 March	Improver
MELAHIDE	18–22 July	Novice
MELAHIDE	25–29 July	Improver
GLENELG	21–25 November Novice	
QUEENSLAND		
BARCALDINE	27 June – 1 July	Novice
BARCALDINE	3–8 July	Improver
QUILPIE	4–8 July	Novice

Shearer training is a recipe for success

AWI-supported shearer training schools have been a key ingredient in helping **Brent Hickey** change his career from being a chef to being a shearer.

After working as a chef for nearly 10 years, Brent Hickey of Gunning in NSW has changed careers to become a shearer – and he has not looked back. He credits an AWI-funded novice shearing school at the start of last year as the key impetus that set him on his new career pathway.

Brent Hickey started work as a chef's apprentice while still at school in Yass and had been cooking for almost ten years when, in his late twenties, he decided to trade the kitchen knives for a shearing handpiece.

on Farm

"Shearing was a profession that I had wanted to try for a few years before I actually gave it a real go. My brother, Leigh, is a shearer and I had often gone out to the sheds with him and another couple of mates, helping the wool handling team," Brent said.

"It was suggested that I could go cooking for them and, later, while I was the cook for the Emerald Shearing team on camp out, I spent a lot of my spare time over in the shed asking the shearers if I could try a last side.

"That was where the idea to become a shearer really started to take shape. I liked the fast pace and the workflow. I could see it was hard but honest and fair work, and that really appealed to me."

Novice training leads straight to a job

Two months later, in January 2021, Brent got a spot in the AWI novice shearing school at Cavan Station, Yass, and things really started moving for Brent. "Taking that training at the Cavan Station shearing school really kicked everything into gear. The week with trainers Ian Elkins and Mike Pora showed me the way around the sheep and gave me some great industry insight," Brent said.

"They spoke a lot about what shearing could give us youngsters and really impressed upon us the importance of a quality job. They encouraged us to be prepared for our day by starting with wellmaintained gear, to eat and recover well, to check our let-go pen – making sure we were doing a job we could be proud of – and to set goals to get ahead."

Brent was fortunate that a local shearing contractor was able to put him on as a learner shearer straight after the training, and Brent has not looked back.

"Peter Robinson of Fullerton Sheep Services visited the shed during my week at the school and offered me work starting the following week," Brent said.

"Their team has been awesome to work with. They have so many experienced staff who are always happy to come down the board and show you a thing or two. They are a motivated crew who, when it is work time, get stuck in and get the job done. It is easy to be motivated when you are part of a team of motivated people. "The initial few months of employment can be tough and painful. You spend a lot of the time trying to figure out technique while your body is getting accustomed to positions it isn't used to being in for extended periods. Looking back now though, the discomfort of the transition was

"I would definitely recommend shearing as a career. Moving into shearing is one of the better life choices I have made both for myself and my family. Brent Hickey, shearer

In December, Brent did another AWIsupported shearing course: an improver course at Dubbo TAFE.

"Going back and doing the improver school has given me a chance to reset, have a tune up and work out how I can be the best shearer I am able to be."

A career with many positives

every bit worth it."

Brent is currently shearing 150 sheep consistently and is loving his new career.

"I would definitely recommend shearing as a career – it ticks so many more boxes for me," he said.

"Moving into shearing is one of the better life choices I have made both for myself and my family. I get so much more quality time with family now than I have had before, which was a big motivator for me.

"In addition, I always love the atmosphere of the sheds. You meet and work with good people and I get to travel to places that I would never have got to before.

"Apart from being super satisfying when you start hitting goals like your first hundred and having a crew that really gets behind you, or looking out at your let-go pen and knowing you've done a good job for the grower, the monetary side is great too.



"So many other jobs have you working hard but not getting paid accordingly. But with shearing, if you want to walk into the pen fifty times or two hundred and fifty times then that's what goes into your pocket. In my first year, I have been able to achieve tallies that most weeks mean I am earning triple what I did in the kitchen.

"Shearing is also great for fitness; it is both physically challenging and mentally stimulating too. For me the physicality of the job is a good thing; I'm considerably fitter now than when I started."

"In my first year, I have been able to achieve tallies that most weeks mean I am earning triple what I did in the kitchen." Brent Hickey, shearer

Looking to the future

Brent says he has career goals of "hitting some big numbers" and maybe getting into competition shearing.

"But right now, I'm focused on building a solid foundation of knowledge and understanding to draw from so that I am able to continue shearing for as long as I continue to stay hungry for that next milestone," he said.

"Every time I learn something more or my best tally goes up, or maybe I find a way to do it a bit better and easier, I find myself more hungry to hit that next goal."

Brent says that, once he got through the initial tough month or two as a learner shearer, the only negative he sees in the shearing industry is that some sheds "aren't up to scratch".

"As part of the wool harvesting process, you see a world of difference that a well maintained and functional shed makes. Most people I have worked with have a desire to do their job to a really high standard and when you have a work environment that makes that difficult, it has a really negative impact on the team and quality of the clip harvested," he said.

"I would love to see investment in harvesting infrastructure to improve the quality of Australian wool overall and encourage more people to get into an industry that is exceptionally rewarding to be a part of."

Brent thanked AWI for the trainers that have helped him in his first year as a shearer.

"The trainers at both my learner and my more recent improver schools have greatly influenced me in my new career. They have so much to offer at these schools. I only wish the schools went for longer, so we can take full advantage of the knowledge and experience of these exceptional trainers."

New gear to attract and retain learner shearers



Brent Hickey with his AWI Learner Shearer Toolbox (right) at the Dubbo TAFE Improver school in December, pictured here with trainers Wayne Hosie and Michael Newton.

In an initiative to help attract and retain new shearers in the Australian wool industry, AWI is presenting learner shearers with a handpiece and other shearing gear, subject to the shearer passing certain criteria.

An AWI project introduced last year enables new and committed entrants in the shearing industry to be equipped with effective tools for the trade, at no cost to the shearer. The gear in the 'AWI Learner Shearer Toolbox' comprises a Heiniger handpiece with cutter and comb, hollow grinding check stone and pendulum, oil can and comb brush, needle and cotton, as well as a singlet and gear bag to store it all.

"The AWI toolbox provides an extra incentive for budding shearers to build up their skills and stay in the industry," said AWI Program Manager, Wool Harvesting Training and Development, Craig French.

"The gear is not a simple handout; the shearer must first pass certain strict criteria, consistent across all states. But, if successful, they will own the tools at the end of their training in 6-12 months' time.

"AWI aims to have 200 learners on stands by the end of the 2021/22 financial year."

Brent Hickey thanked AWI for the learner toolbox that he was officially presented with at the Dubbo TAFE Improver school in December.

"I am very appreciative to be presented with the AWI toolbox," he said.



""

"The AWI toolbox provides an extra

incentive for budding shearers to build up

their skills and stay in the industry."

Craig French, AWI

JJ ·

The **AWI Learner Shearer Toolbox** contains gear to help attract and retain new shearers in the industry.

в

Fleece rot and lumpy wool **are not the same**

How to identify each for their successful management

Don't be confused!

It is important that fleece rot should not be confused with lumpy wool (the latter is also known as mycotic dermatitis or 'dermo'), because there are differences when it comes to the prevention and control of each of them. Both can lead to body flystrike because the damaged skin and fleece:

- attract pregnant female blowflies and encourage them to lay eggs
- provide moisture for eggs to hatch
- provide protein for blowfly larvae to feed on.

Fleece rot and lumpy wool are both skin diseases of sheep that are mostly likely to occur in high rainfall seasons. In mild cases they can easily be mistaken for each other. This article will help you identify both diseases, and provide you with information on the prevention, control and treatment of each of them.

FLEECE ROT



Fleece rot infection often results in a staining of the wool and forms flaky or matted bands of wool fibres parallel to the skin. Source: ParaBoss

LUMPY WOOL



Lumpy wool tends to form columns of hard lumps along the staple. Left: Lumpy wool infection causes intense skin inflammation and serum exudate at the skin surface. Right: A later stage of lumpy wool that shows clumping of the wool and wool discoloration due to associated infections. Source: NSW DPI (2010) Lumpy Wool – A Skin Disease of Sheep. Primefact 986

	FLEECE ROT	LUMPY WOOL
What is it?	• A serous exudate (or watery discharge) from the skin and bacterial (most commonly <i>Pseudomonas aeruginosa</i>) staining of the wool staple.	• A disease caused by the bacterium <i>Dermatophilus congolensis</i> which produces a discharge from the skin that is trapped in the wool staple.
How is it caused?	 Fleece rot develops following prolonged wetting of the fleece and skin (usually 5 to 7 days). Moisture breaks down the protective wax layer on the skin. The skin then leaks a watery discharge encouraging bacterial growth. 	• The bacteria are inactive or dormant on the skin when dry but are released from scabs on the skin when wet, multiplying and spreading rapidly, causing a skin discharge.
What does it look like?	 The wool becomes crusted, matted and often discoloured. There is often staining of the fleece in distinct bands of yellow, brown, green, red-orange, pink-violet, blue or grey. Sheep may be irritated and wool can develop a rubbed or 'pulled appearance' where sheep bite to relieve irritation. Fleece rot forms matted bands of wool fibres parallel to the skin. 	 Skin is inflamed and the discharge forms scabs that are generally less than 1 cm in diameter on non-wool areas such as the face and ears. When occurring on wool areas, the fibres in the staple mat together and dry into a scab. In advanced cases, sheep can have hard 'lumps' or plates of scabs across their back. Characteristic 'dermo' forms columns or hard lumps growing from the skin up along the wool staples.

	FLEECE ROT	LUMPY WOOL
What is the method of spread?	• Whilst some sheep seem more susceptible, fleece rot is not infectious.	 During outbreaks, lumpy wool can spread through a flock when infected sheep become wet and have direct physical contact with non- infected sheep. Severe and rapid spread may occur even if only a small percentage of a flock is initially infected.
What sheep are most susceptible?	 Animals with poor conformation on their back line, such as a dip between the shoulder blades or a dip behind the shoulders on the backline ('pinched'), where the fleece cannot dry out, or with fleece type that lets the water in and dries out slowly, are most susceptible to fleece rot especially young sheep carrying 4 to 12 months' wool growth. Sheep with old fleece rot lesions are more prone to wetting and re-occurrence of fleece rot. 	 Lumpy wool occurs mainly in weaners or hoggets, especially those with a fleece type that wets easily, but it can affect sheep of all ages. Young lambs at less than six weeks of age are susceptible to lumpy wool due to the low protective wax content on their wool. Specific risky circumstances: Wet weather coinciding with lambing allows the infection to spread from the ewe to the newborn lamb. Handling young sheep in close confinement off shears when sheep are wet. Infection occurs in older sheep if the wax layer is breeched, such as after shearing or dipping. Skin injury from grass seeds also exposes sheep to lumpy wool infection.
What is the effect of the disease?	 Increased risk of body strike. Reduction in wool quality; wool that is stained and unscourable. 	 Increased risk of flystrike. Septicaemia or starvation in younger lambs. Loss of condition, reduced skin values and additional handling and treatment costs in older lambs and sheep. Can lead to fleece rot (and staining). Reduced effectiveness of lice treatments or more time needed to apply lice treatments.
How do you prevent it?	 Select directly for fleece rot resistance as well as indirect traits, including low wool colour and lower fibre diameter variability, see the AWI & MLA Visual Sheep Scores guide, and MERINOSELECT and Merino Sire Evaluation report data for fleece rot and wool colour. Shearing lambs at less than five months of age can result in a higher incidence of fleece rot than if the first shearing is delayed until approximately 12 to 15 months of age. Shear immediately before the start of the rainy season as a short fleece rot. Otherwise, older sheep require at least three months after shearing for their fleece staple structure to form an effective barrier to rain. Where possible, don't handle wet sheep. 	 Where sheep have active scabs coming up to the expected Where sheep have active scabs coming up to the expected
How do you treat and control it?	 There is no effective treatment available for fleece rot, however it usually resolves spontaneously once the wool and skin dry out. Once resolved at the skin level, as the wool grows it moves away from the skin but remains in the fleece until shearing. 	 Most animals will develop immunity to lumpy wool infection and in most instances the active skin infection heals within four to six weeks. Cull chronically infected sheep due to their ongoing susceptibility to flystrike. In severe cases, sheep can be treated with antibiotics. Seek advice from your vet. Only treat sheep that you plan to shear or that are severely affected and likely to die if not treated. If not shorn after treatment, lumpy wool can reoccur. Avoid handling sheep affected by lumpy wool when they are wet, because the disease can cause a skin infection in humans.

Seek treatment, control and prevention advice from your vet and follow all label directions and veterinary instructions when applying animal health treatments.

More AWI resources to help **woolgrowers** beat the blowfly

The AWI Board has approved an expanded flystrike extension program to also include workshops and access to one-on-one coaching for woolgrowers who are considering moving to a non-mulesed sheep enterprise. This is in addition to existing funding of workshops for all woolgrowers on developing a flystrike management plan and breeding for flystrike resistance.

Reducing the impact of flystrike remains a priority for the Australian sheep industry – and the AWI Board has further enhanced its financial commitment to helping woolgrowers tackle this significant sheep health and welfare issue by recently approving the funding of a comprehensive flystrike extension program.

ON FARM

AWI has invested significantly over the past 15 years in R&D projects to support woolgrowers looking to improve lifetime animal welfare, reduce their reliance on chemicals and mulesing, and breed sheep for flystrike resistance. AWI's flystrike extension program draws on the outcomes from this investment.

New extension material is being developed following extensive consultation with ram breeders, researchers, consultants, advisors and animal health company representatives.

The new material will add to and complement existing resources and tools that are being updated and uploaded on the AWI and FlyBoss websites – such as the recently published information for woolgrowers and their advisors on managing blowfly resistance to chemicals (reported in the December 2021 edition of *Beyond the Bale*).

"The whole program of investment is balanced," said AWI's General Manager Research, Dr Jane Littlejohn. "It includes information for all woolgrowers regardless of their sheep type, climate or husbandry practices."

Current and previously announced flystrike extension resources

The flystrike extension program includes the It's Fly Time! webinar pack of information

and **SimpliFly workshop**, both of which encourage woolgrowers to understand the current 'tools in their toolbox' to make the most appropriate flystrike management decisions for their sheep and environment.

It's Fly Time! resources, which include a webinar, videos and factsheets, as well as information specific to managing blowfly resistance to chemicals (**DemystiFly**), are already available at www.wool.com/ flystrikeresources. Piloting for the SimpliFly workshops is under way and it is expected that they will be available for delivery later this year (subject to COVID).

The **ClassiFly workshop** focuses on breeding and is targeted towards woolgrowers wanting to reduce their reliance on chemical prevention, crutching and mulesing through breeding for flystrike resistance in sheep. The rollout of the ClassiFly workshops will begin after the SimpliFly workshops have been launched.

The above offerings are relevant to all woolgrowers, regardless of sheep type, climate, operating environment, and husbandry practices.

New resources to help beat the blowfly

The newest additions to the program, **StrateFly** and **AmpliFly**, are specifically targeted at non-mulesed woolgrowers and those woolgrowers looking to go nonmulesed.

"A key component of the AWI flystrike extension program is equipping woolgrowers' advisors with the support, tools and capacity to tailor flystrike management solutions to their clients' needs, empowering them to assist growers to implement long-term changes on their property," Dr Littlejohn said. The recently approved funding will train and accredit woolgrowers' advisors to deliver the StrateFly workshop, covering what is required to develop and implement a whole-of-farm strategy to successfully make the move to a non-mulesed enterprise.

Through AmpliFly, woolgrowers can then engage AWI-trained and -accredited advisors under a fee-for-service consultancy arrangement to help them implement their move to a non-mulesed enterprise. The AWI accreditation ensures woolgrowers will receive expert, nationally consistent, handson coaching and support, which will be tailored to their specific operation by their trusted advisor.

"This is an exciting new approach to AWI's extension offerings," Dr Littlejohn explained. "AmpliFly, the advisor support package, is designed to be easily embedded into the suite of services that advisors offer to their clients, enhancing advisor capacity and broadening the reach of woolgrowerfunded research and development into reducing the impact of flystrike on Australia's sheep flock."

Development for StrateFly and AmpliFly has commenced, and they should be ready for launch in 2023.

More information

Check out **www.wool.com/** flystrikeresources for AWI's latest information for woolgrowers on monitoring, preventing and treating flystrike, as well as resources to help reduce the risk and manage the impact of chemical resistance on your property. For more detailed information on flystrike management, including access to interactive decision support tools, visit **www.flyboss.com.au.**
AWI's flystrike extension program

AWI's flystrike extension program is supporting woolgrowers to improve the lifetime welfare of their sheep, reduce their reliance on Amulesing, reduce the size of the mules, optimise chemical use, and increase whole farm profitability through the provision of practical information, tools and access to accredited advisor support on flystrike management.

Woolgrowers can pick and choose how to get involved with the different components of the flystrike extension program that best suits their requirements, sheep type, climate, operating environment and husbandry practices.

TOOLS AND RESOURCES It's Fly Time![™] C) flyboss **DemystiFly**[™] **Breeding and selection** Practical, just-in-time information in Practical information about Information and tools on flystrike Information and tools to help you the lead up to, and during, high-risk managing chemical resistance management breed better sheep flystrike periods in blowflies WORKSHOPS AND ADVISOR COACHING AND SUPPORT SimpliFly^{*} AmpliFly ClassiFly StrateFly[®] A one-day workshop to develop a A one-day workshop with demos to A one-day workshop to One-on-one coaching and support property-specific, strategic flystrike increase understanding and skills in develop a property-specific, wholefrom a trained and accredited advisor breeding for flystrike resistance of-farm strategy for moving to a to assist you over time to implement management plan non-mulesed enterprise your whole-of-farm strategy for moving to a non-mulesed enterprise **DEAD FAST** Extinosad[™] Pour-On provides rapid knockdown control of lice¹ with minimal impact on management SO YOU CAN BE or marketing options: **DEAD SURE** Apply up to 7 days off-shears, to suckling lambs (unshorn) or to sheep with long wool (>6 months)² No wool WHP and 21 day ESI (off-shears and unshorn lambs)² Unique mode of action³ with no known resistance User-friendly, water-based formulation Ideal rotation partner⁴ Call 1800 226 324 or visit extinosad.com.au and find out why it's time to rotate to Extinosad Pour-On. PURCHASE 2 X 20 L **PURCHASE 6 X 20 L** DRUMS AND GET A DRUMS AND GET A



Always read and follow the label directions. Good agricultural practice is essential for optimal lice control. "Terms and conditions apply. Visit ElancoRewards.com.au References: 1. Levot, G. (2008). Speed of action and in vitro efficacy of spinosad against sheep body lice, *Bovicola ovis*, resistant to pyrethroid, organophosphate or insect growth regulator insecticides. *Aust J Ent* 47:251-255. 2. Refer to registered label. 3. Cisneros, J. *et al.* (2002). Toxic effects of spinosad on predatory insects. *Biological Control*. 23:156-163. 4. James, P. (2013). Preventing resistance in sheep lice, www.liceboss.com.au (AWI, Sheep CRC). 5. Visit extinosad.com.au or contact your rural store for terms and conditions. ExtinosadTM Pour-On contains 20 g/L spinosad. Power DoserTM is a trademark of Genesis Industries (Aust). ExtinosadTM, Elanco and the diagonal bar logo are trademarks of Elanco or its affiliates. @2021 Elanco or its affiliates. PM-AU-21-0856. EAH21644A.

Full details.

POWER DOSER

OR A \$300 GIFT CARD

OFFER ENDS 18/04/22

GIFT CARD

OFFER ENDS 18/04/22

MONTHS

OFF-SHEARS

GUARANTEE⁵

Breeding for natural flystrike resistant Merinos - publications

www.wool.com/flystrikelatest/#breeding

AWI makes available publications about breeding for flystrike resistant Merinos on its website at www.wool.com/flystrikelatest/#breeding

Here is a selection of the available publications:



PLANNING FOR A NON-MULESED MERINO ENTERPRISE [March 2018]

This 16-page report outlines the key learnings from a number of wool-growing enterprises, from a diverse range of environments and Merino types, that have moved to a non-mulesed enterprise.



BREEDING AND SELECTION -INDUSTRY TRENDS

RATE OF GENETIC GAIN IN REDUCING BREECH FLYSTRIKE (May 2020)

RD&E Technical Updates, by AWI's Geoff Lindon and the University of Adelaide's Forbes Brien.



VISUAL SHEEP SCORES – PRODUCER VERSION (Updated 2019)

This 74-page pocket guide for commercial and stud breeders provides a standardised framework for assessing and scoring visual sheep traits, including breech and wrinkle traits.



SHEEP FLYSTRIKE RISK FACTORS

BREEDING NATURALLY BREECH RESISTANT MERINOS

PART 1 – June 2020 PART 2 – September 2020

Each is a 2-page article from *Beyond the Bale.*



BREEDING PRODUCTIVE, NATURALLY BREECH STRIKE RESISTANT MERINOS

(June 2021)



(December 2021)

Each is an article from Beyond the Bale.



GENETICALLY REDUCING BREECH FLYSTRIKE: HOW FAST AND WHAT ARE THE CONSEQUENCES? (June 2019)

LOW WRINKLE-HIGH FLEECE WEIGHT PRODUCTIVE SIRES EASIER TO FIND (June 2019)

Each is a 2-page summary article from *Beyond the Bale.*

IS YOUR CURRENT DRENCH REALLY WORKING?

TAKE THE ZOLVIX PLUS CHALLENGE

AND FIND OUT!

FIND OUT MORE

THE FIRST CHOICE PRE-LAMBING, WEANING AND SUMMER DRENCH

Reduced drench efficacy could be costing you thousands of dollars in lost productivity every year. Zolvix Plus is the only combination drench that delivers the power of monepantel. Its unique mode of action provides >99.9% efficacy against a broad spectrum of internal parasites, including single, double and triple resistant strains.^{1,2} Its new 21-day Export Slaughter Interval is the lowest of any combination drench containing abamectin. Visit **ZolvixPlusRewards.com.au** today and take the Zolvix Plus challenge!



elanco.com.au 1800 226 324

HECK

*Visit zolvixplusrewards.com.au for terms and conditions. References: 1. Refer to registered label, 2. Hosking, B.C. et al. (2010). A pooled analysis of the efficacy of monepantel, an amino-acetonitrile derivative against gastrointestinal nematodes of sheep. *Parasitol Res* 106:529-532. Zolvix Plus contains 25 g/L monepantel and 2 g/L abamectin. Always read and follow the label directions. For full product details, contact Elanco Customer Service on 1800 226 324 between 8 am and 5 pm EST Monday to Friday. ZolvixTM, Elanco and the diagonal bar logo are trademarks of Elanco or its affiliates. ©2021 Elanco or its affiliates. EAH21607. PM-AU-21-0862.

How to worm your way out of a wet season

At lambing and during lactation, a ewe's immunity to worms temporarily declines. It is also important to minimise worm infections of your lambs as they have little immunity to the parasite – worms can affect lambs' growth and even survival rates.

With many sheep-producing areas across Australia kicking off the year with wetter than average seasonal conditions, the headaches of trying to keep up with worm management continues. This season, the key focus is to understand how to deal with higher parasite burdens than usual, both in the sheep and on the paddock.

t's important to consider the key concerns of worm control following a season like this, such as:

- Worm numbers can increase very rapidly with the ongoing presence of warm temperatures and moist conditions.
- Usual pasture rotations may not be as effective in managing pasture larval burdens as they would under normal or average seasonal conditions (which is why you will be seeing sheep reinfected with worms sooner than usual).
- There may be less opportunity to avoid heavily contaminated pastures (see point

above and consider your pastures to be 'dirty').

• Managing contamination with eggs and larvae on pastures will be less effective with regular falls of rain and milder temperatures.

This all leads to potentially more headaches, and most likely more treatments than what you would administer in a more average season. With this in mind, the best tools in the toolbox for managing worms in your sheep flock this year is the WormBoss suite of tools, featuring your next go-to tool, the WormBoss Drench Decision Guide.

Looking for a guide more tailored to your region?

There are WormBoss Drench Decision Guides tailored for every sheep production region (see map below) that can assist your decision on whether to drench now, whether to use a persistent drench and when to WormTest again.



See the WormBoss box opposite for how to access your WormBoss *Drench Decision Guide*. They are very simple and quick to use.

How does the WormBoss Drench Decision Guide work?

Simply choose your region and select the answer that applies to the mob of sheep you are considering drenching.

A tailored report will then be produced showing the date, answers selected and a recommendation based off your answer with associated information.

The Drench Decision Guides are suitable for most situations; however, they cannot account for every factor affecting the overall health of your sheep. Always consider seeking professional advice specific to your property and sheep.



for effective worm management in your sheep flock

- Worm test: If you are not regularly conducting worm egg counts (WECs), then do yourself and your sheep a favour and start doing it today! It's a cost-effective way of staying ahead of the game with worms, and avoiding things getting out of control (use a WEC QA approved lab – you can find a list of these on the WormBoss website).
- 2. Use an effective product (effective equates to a 95% or higher reduction in worms) that contains at least TWO active ingredients and use the correct dose rate (drench to the heaviest in the mob, and if there is a large variation, consider splitting the mob into heavy and light to avoid over and/or under dosing).
- Follow up drenching activities with another WEC

 to check that the product/treatment has been effective.
- Continue to monitor your mobs for increases in WECs and treat as mobs reach thresholds. MONITORING is the key point here – and careful, attentive monitoring can prevent avoidable adverse events, and help keep your stock thriving.
- 5. Know the relative susceptibility of the different classes of livestock on your farm and the types of worms that you normally see (a larval culture will determine this).





for choosing and using drenches

- Avoid unnecessary drenching by referring to your relevant regional WormBoss Drench Decision Guide.
- 2. Calibrate drench guns to ensure the correct dose is delivered.
- **3.** Calculate the dose based on the heaviest animal in the mob.
- **4.** Follow the label instructions to ensure correct dose and use of treatments.



For more information on Drench Decision Guides for sheep, visit

www.wormboss.com.au/sheep-goats/tests-tools/ drench-decision-guide/sheep

For additional worm management tools including how to conduct a worm egg count, what products to use, drench resistance and more, visit the WormBoss website at

www.wormboss.com.au



Tap into best practice parasite management

Collectively, the three Boss websites – WormBoss, FlyBoss and LiceBoss – promote best practice for the management of sheep parasites at the farm level, developed by a community of veterinary experts and parasitologists from across Australia and supported by the sheep industry.

Subscribe to the free ParaBoss e-newsletter at www.paraboss.com.au/subscriptions and follow us on Facebook at facebook.com/paraboss.com.au

Viper[™] is the only pour-on lousicide for sheep that contains thiacloprid, next-generation chemistry that is up to six times more potent against sheep lice than imidacloprid.^{2,3,4}

- Knockdown control of lice³
- Registered for unshorn lambs (2 weeks to 2 months of age)
- 4 weeks' protection against reinfestation when applied within 24 hours of shearing
- Flexible off-shears application
- User-friendly formulation

Call **1800 678 368** or visit **viperpouron.com.au** and find out why it's time to upgrade to Viper.





Always read and follow the label directions. Good agricultural practice is essential for optimal lice control. *Terms and conditions apply. Visit ElancoRewards.com.au References: 1. Visit viperpouron.com.au or contact your rural store for terms and conditions. 2. BAH Laboratory Study 6106008 2006. 3. BAH Laboratory Study 6108010 2008. 4. BAH Laboratory Study 6105020 2005. Viper contains 10 g/L thiacloprid. Power Doser™ is a trademark of Genesis Industries (Aust). Viper™, Elanco and the diagonal bar logo are trademarks of Elanco or its affiliates. ©2021 Elanco or its affiliates. PM-AU-21-0840. EAH21644B.



MONTHS OFF-SHEARS

GIIARANTEE

AWI and AGBU partnering for genomics and the MLP analysis

A new \$1 million, five-year project has commenced with the Animal Genetics and Breeding Unit (AGBU) set to analyse the expansive Merino Lifetime Productivity project dataset and undertake additional Merino genetic benchmarking R&D with a focus on flystrike genomics.



The team from the Animal Genetics and Breeding Unit (AGBU): **Elena Dehnavi, Daniel Brown, Peter Wahinya** and **Andrew Swan**.

This project will be run by an expert genetic team from AGBU, working in conjunction with AWI and the MLP project team. Two new dedicated post-doctoral research positions have been funded and recruited within the AGBU team.

The new team members will be working on the analysis phase of the MLP project as well as additional AWI genomics projects. They will be working under the guidance of two familiar genetic experts, and it's hoped that, in future, student positions will be incorporated to capitalise on the newly formed analysis team.

The MLP dataset is of significant value to the Merino industry for longer term phenotypic, genetic and economic analysis in order to answer a diverse range of industry questions. The NSW Stud Merino Breeders' Association Trust has indicated that it would like to provide additional support that will see analysis targeting specific points of interest to industry.

The first of the newly created research positions has been filled by Dr Elena Dehnavi who joined AGBU in early 2021 and has worked on breeding objectives and breeding program design. Elena's work included updating terminal sheep selection indexes and estimating genetic parameters. Elena's university studies were completed at the Gorgan University of Agricultural Sciences and Natural Resources in Iran and the Isfahan University of Technology also in Iran, with time spent in Canada at the University of Guelph's Centre for Genetic Improvement of Livestock group. Elena has a background in marker selection, genomic selection, reference population breeding design, simulation, imputation across a range of animals and has previously worked with buffalo, cattle, poultry and Japanese quail genetics - the project is lucky to have her skillset now applied to Merinos!

Dr Peter Wahinya has capably filled the second position with a special focus on the MLP dataset. Peter finished his PhD at AGBU in 2020 on quantitative genetics after earlier university studies in Kenya. His studies were in the application of genetics and economics to improve livestock productivity by developing breeding strategies for genetic improvement of dairy cattle under different production systems. Since 2020, Peter has been involved in a variety of AGBU projects including the estimation of genetic parameters of methane emission in Australian sheep in grazing and controlled environments, plus the analysis of pure and crossbred genotypes for breed composition estimation and genetic evaluation in beef cattle.

The project's senior supervisors and collaborators include Professors Daniel Brown and Andrew Swan. Daniel is a Principal Scientist at AGBU at Armidale. He is well-known as a member of the team responsible for the routine estimation of Australian Sheep Breeding Values (ASBVs) for Sheep Genetics, as well as the ongoing research and development of the genetic evaluation system. Daniel has been working in this role for nearly 23 years with the primary focus on the genetic improvement of sheep. Daniel is also a program leader for the Advanced Livestock Measurement Technologies project aiming to develop objective measurement technologies to collect lean meat yield and eating quality data from commercial supply chains. And keeping in touch with the practical elements of his professional work, Daniel also operates a small sheep and beef operation with his family.

Andrew Swan has been working in animal genetics research for 30 years, joining AGBU in 2006. Whilst at AGBU he has contributed to the development of genetic evaluation services for the Australian sheep industry, delivered to ram breeders and their clients through Sheep Genetics and AMSEA. This has involved close collaboration with AMSEA. Sheep Genetics staff. ram breeders. and genetics service providers over a long period of time. Recently Andrew's research focus has been on the application of genomic information working in collaboration with other researchers and leading to the full implementation of 'single step genomic BLUP'. This is the first and largest analysis of its kind in international sheep breeding. Andrew's passion is to see genetic gains made by ram breeders translated into improved productivity and sustainability for industry.

Analysis outcomes from AGBU and the MLP project team will be reported via the usual AWI and MLP channels plus additional avenues which will be advertised in future editions of the MLP Project Newsletter (subscribe to the MLP newsletter via www.merinosuperiorsires.com.au/contact-us).

The MLP project looks forward to reporting analysis outcomes to industry.

ON 4

85% of mlp data points collected

With more than 85% of the MLP's 1.9 million data points now collected, some early analysis of the dataset is commencing.

The first of the five sites (Balmoral, Victoria) will complete its project assessments in March 2022, Pingelly (Western Australia) and MerinoLink (NSW) will wrap up in late 2022. The Macquarie and New England sites will continue into 2023/24.

2022 MLP FIELD DAYS

Macquarie: 30 March

The Macquarie Sire Evaluation Association, along with site hosts NSW DPI, invite industry to attend the Macquarie 2022 MLP Field Day at Trangie Agricultural Research Centre. Further details are available at wool.com/mlp

Balmoral: the final field day

The recent MLP field day held on 17 February at the Balmoral Breeders Association MLP site, generously hosted by Tuloona Pastoral, saw an enthusiastic crowd gather to view the 2015 and 2016 drop MLP ewes in their final display. The ewes were shorn after the field day and have exited the project. A full report of their lifetime results will be produced with analysis to follow.



Hear from Balmoral MLP site manager Tom Silcock of Balmoral Breeders and sheep classer Bill Walker in Episode 211 (4 February) of AWI's The Yarn podcast at **www.wool.com/podcast**





MLP FAST FACTS

The AWI-funded MLP project is a \$13 million (\$8 million from AWI plus \$5 million from project partners), 10-year venture between AWI, the Australian Merino Sire Evaluation Association (AMSEA), nominating stud Merino breeders and site partners.

- Balmoral, Vic Partner: Tuloona Pastoral Committee: Balmoral Breeders Association
- Pingelly, WA
 Partner: Murdoch University
 / UWA
 Committee: Federation
 of Performance Sheep
 Breeders (WA Branch)
- MerinoLink, Temora, NSW Partner: Moses & Son Committee: MerinoLink Inc.
- Macquarie, Trangie, NSW Partner: NSW DPI Committee: Macquarie Sire Evaluation Association
- New England, NSW Partner: CSIRO Committee: New England Merino Sire Evaluation Association

The MLP project is tracking the lifetime performance of 5,700 ewes as they proceed through four to five joinings and annual shearings.

A full suite of assessments will be undertaken including visual trait scoring, classer gradings, objective assessments of a range of key traits and index evaluations.

A unique and extensive dataset will result and be used to enhance existing Merino breeding and selection strategies, for both ram sellers and buyers, to deliver greater lifetime productivity and woolgrower returns.

To stay up to date with the latest MLP findings, visit www.wool.com/MLP. Subscribe to MLP updates via www.merinosuperiorsires.com.au/contact-us

In-person & remote attendance available

2022 CONFERENCE & FIELD DAY 6-8 JUNE WAGGA WAGGA NSW

Event info + rego merinolink.com.au/conference2022

MerinoLink invites all of industry to once again join us in Wagga Wagga NSW for a conference featuring the latest Merino information presented by a broad spectrum of key industry presenters across a range of formats and venues.

We'll revisit many of the high calibre 2021 venues with a brand new program of topics and line-up of presenters, plus a variety of opportunities for behind-the-scenes access to industry experts and their work.

The 2022 program runs from Monday, June 6 through to Wednesday June 8 and includes a lead-in session and an informal meet and greet dinner, a full conference day and formal dinner, plus a field day across multiple venues.





Can we find a better way to compare **sheep performance and profitability** on a per hectare basis?



MLP F1 ewes being assessed for methane and carbon dioxide as a proxy for feed intake.

We currently have a world-leading evaluation of the productivity of Merino sheep and their ability to pass those traits on to their progeny through their 'Breeding Value', but it is largely based on a per head basis (MERINOSELECT).

An improvement would be if we could find animals with highly productive breeding values that also eat less while also being in good condition score. If the progeny of these animals could be productive, run at higher stocking rates or in higher condition score to gain additional production, or require less supplementary feeding, then we will be selecting animals that are more profitable on a per hectare basis.

To achieve this, several key questions need to be answered:

- Is feed intake and whole-body energy heritable? And high enough?
- What is the relative economic value of each trait? (So they can be added to an economic index.)
- What are the correlations with other traits? (Can progress occur in all key traits?)
- Can we find low-cost measures of feed intake and whole-body energy? (Ideally, we can use existing measures, but we may need new specific low-cost measures.)
- What is the best age to conduct the feed intake and whole-body energy measures?

The results from animal house trials completed on the wethers were sufficiently encouraging to progress the work to field trials on the MLP F1 ewes at the Pingelly site.

Productivity

The MLP F1 ewes are being measured and classed for a large range of wool, carcass, reproduction, health and welfare traits as The AWI-funded study 'Genetic Evaluation of Productivity, Efficiency and Profitability' (GEPEP) with Murdoch University aims to determine if it is possible to improve current estimates of profitability per hectare, by assessing feed intake and total body energy reserves (proxies for feed efficiency), rather than the current blunt use of metabolic body weight (DSE rating).

The previous project update was provided in the March 2021 edition of *Beyond the Bale.* The MLP F1 wether data from the DPIRD Katanning animal house trials has pointed to considerable individual and sire differences in feed intake, whole-body energy and production. The project has moved to field evaluation of their sisters, the MLP F1 ewes at 'Ridgefield Future Farm' Pingelly WA.

part of the MLP trial to 5 and 6 years of age.

Over the next 18 months, the 2016 and 2017 ewe drops will be twice assessed in spring and autumn as 5-year-old ewes for feed intake and whole-body energy reserves.

Feed intake

The GEPEP trial is using two measures of feed intake:



Sarah Blumer, Andrew Thompson and Jarryd Krog of Murdoch University, enjoying Pingelly's MLP Field Day, October 2021.

- Use of AWI smart ear tags and halter 'accelerometers' over a five-day period. These devices measure grazing behaviour which is known to be related to feed intake. The spring assessments are conducted on an oat crop and the autumn assessment in confinement feeding.
- Methane and carbon dioxide measures from standing one hour in a Portable Accumulation Chamber (PAC). Other work has shown strong phenotypic and genetic correlations between gas production and feed intake.

The tags will be cheaper but there is also an advantage in the methane assessments for breeders looking to reduce future methane production.

Whole-body energy

The GEPEP trial is assessing a range of options:

- Existing condition score and ultrasound scan.
- Microwave race side scan of fat depth.
- A blood test to measure the concentration of leptin, a hormone produced by fat tissue.
- A blood sample collected six hours after injecting a known amount of deuterium to measure the concentration of deuterium ('heavy' water). The dilution of the deuterium is related to body water content and body fat.

If the current ultrasound scan can be used, this will be the most cost effective, but a race microwave scan is also relatively cheap.

Whole-body energy may be more easily adopted and commercialised and feed intake and/or methane introduced at a later stage.

Where to from here?

The final GEPEP data will be collected in autumn 2023 and will need to be fully analysed.

The GEPEP project team is in constant discussion with AGBU and Sheep Genetics about how and when the information could be utilised by MERINOSELECT Indexes.

More data may be required. MLA has funded a methane project that will assess the Macquarie and New England MLP F1 ewes. This would broaden the measures and Merino types being assessed. Sire Evaluation Sites are another possibility for further data collection.

New Zealand has manufactured trailers with eight PACs each that can be transported between farms.

Improving feed efficiency per unit of production has long been a Merino aspiration. However, the technology has been complex to master as has developing economic field assessments. Technology breakthroughs with DEXA machines, methane and carbon dioxide assessments, and smart tags have assisted with the recent progress with feed efficiency. While recent progress is encouraging, more field trails and analysis are required before the technology can be commercialised.

More information

Andrew Thompson, Associate Professor at Murdoch University, **andrew.thompson@murdoch.edu.au**

Tribute

Sarah Blumer, the Project Leader in the AWI – Murdoch University GEPEP project, sadly passed away in January. Sarah's industry legacy will long reflect her passion for sheep and sharing research findings with producers. Our best wishes to her family, friends and colleagues.

Virtual fencing pushes boundaries with technology

An AWI-supported project is under way to field test a 'virtual fencing' system that enables sheep, which are fitted with a GPS-enabled device, to be contained on an area of paddock without the need for normal fencing.

Virtual fencing is an animal-friendly fencing system that enables livestock to be contained (or moved) without the need for conventional 'visible fences'.

A virtual fence is an invisible line in the landscape that can be created on a map on a computer/tablet – and moved or erased at the farmer's touch. Animals wearing a GPS-enabled device are warned of the presence of the 'invisible fence' through an audio cue from the device and learn to respond to this. If the beep is ignored, the device delivers a short, mild electric pulse.

There has been significant industry interest in the development of virtual fencing systems due to their potential benefits that include:

 increased productivity and profitability through improved feed utilisation and better matching of animal demands to feed supply and quality
improved environmental and sustainability outcomes such as reduced overgrazing and better weed control and nutrient management

 improved labour efficiencies and reduced capital investment in real/ visible fencing.

CSIRO is carrying out a series of virtual fencing trials for cattle and sheep, with support from AWI and GRDC. The aim of the AWI investment is to be able to apply virtual fencing to sheep using a system similar to the now commercialised eShepherd neckband that has been developed for cattle by CSIRO and Gallagher.

However, it has been identified that a neckband on its own is not a practical option for sheep due to the growth and insulating properties of wool. Therefore, investigations into the practicality of a virtual fencing ear tag are now being conducted by CSIRO.

An initial study found that learning responses to stimulus applied through ear devices were similar to application via a neckband. It was effective at keeping sheep out of a prescribed area in a paddock and sheep return quickly to grazing after experiencing the virtual fence.

Development by CSIRO is now under way to fully automate the process in GPS-enabled devices for sheep, to allow larger scale sheep trials to be carried out on mixed farms with larger sheep numbers and longer trial periods for more intensive grazing pressure.

The challenge will be to develop an ear tag system, incorporating both electrical stimuli and audio cue, that is practical and viable in a commercial environment.

Are you sowing hardseeded legume based pastures this autumn?

Biserrula and (right) regeneration following drought. PHOTOS: Belinda Hackney

A collaborative project has been examining how hardseeded legumes can be used to increase the supply of feed in modern mixed farming systems in southern Australia and therefore increase the productivity of livestock.

The Dryland Legume Pasture System (DLPS) project, which commenced in 2018, has been investigating the use of hardseeded legumes such as arrowleaf clover, biserrula, bladder clover, gland clover, French serradella and yellow serradella in pasturecrop rotations.

A key component of the research has been to evaluate how hardseeded legumes might be able to be integrated into farming systems to increase productivity of livestock.

The project has encountered years of extreme drought through to seasons where rainfall has been up to 50% above the longterm average across a range of soil types. Throughout, hardseeded legumes have been shown to be well-adapted to the climatic and soil challenges facing modern mixed farming systems in southern Australia.

The DLPS project is jointly funded by the Rural Research and Development for Profit program, AWI, GRDC and MLA in collaboration with Murdoch University, the Department of Primary Industries and Regional Development (DPIRD), NSW Department of Primary Industries (DPI), CSIRO, the South Australian Research and Development Institute (SARDI) and Charles Sturt University.

How do hardseeded legumes differ from traditional legumes like subterranean clover and annual medics?

In the mixed farming zone, pastures are grown in rotation with crops with the

pastures needing to be resown after the cropping phases. Transitioning between the crop and pasture phase can be slow. Usually, it takes considerable time to establish new sowings with a requirement for lenient grazing to ensure adequate seed is produced for future paddock regeneration.

Furthermore, over the last 20-30 years, traditional legume species such as subterranean clover and annual medics have often exhibited poor production and persistence, and this has put many producers off re-establishing traditional legume pastures. Changing climatic conditions resulting in unreliable seed production and/or losses of regenerating plants due to false breaks in late summer and early autumn have challenged traditional legumes. Additionally, seed costs are high due to the laborious nature of harvesting seed which requires the use of a suction clover harvester and further seed processing.

The hardseeded annual legumes discussed in this article have attributes that fit well with modern farming systems and their inherent soil and climatic challenges. They can be harvested using a conventional header providing cheap seed, allowing producers to grow seed on-farm which they can then harvest and then sow themselves. Header harvesting also minimises soil disturbance. This contrasts with suction harvesting of traditional legumes which destroys soil surface structure and increases erosion risk.

Additionally, hardseeded legumes lack burrs and spines and do not present a wool contamination risk where traditional legumes do.

KEY POINTS

- Hardseeded legumes produced more feed and seed than traditional legumes across a range of soil and seasonal conditions including extreme drought.
- Hardseeded legumes offer more flexible pasture-crop rotations enabling growers more flexibility in their livestock and crop enterprises.
- Adequate preparation is the key to success of any pasture renovation program.



Hardseeded legumes have deep root systems reaching 1.3-1.8 m (see Table 1) compared to 90 cm for subterranean clover and annual medics, providing improved drought tolerance and greater resilience under poor seasonal conditions, leading to more reliable seed production. These legumes also have 45-90% of seed produced remaining hard by the following autumn compared to <30% for most subterranean clovers. Higher amounts of hard seed give greater protection against false breaks.

High levels of residual hard seed allow paddocks to be cropped over with the pasture legume then being able to regenerate without the need for re-sowing. For very hardseeded legume cultivars of biserrula and yellow serradella, with high previous seed set, paddocks can be cropped for 3-5 years with legumes regenerating without needing to re-sow. For arrowleaf clover, bladder clover, gland clover and hardseeded cultivars of French serradella, rotations of one-year crop, one-year pasture work well, although occasional cropping phases of two-years duration can be imposed where the legume has set seed on a number of occasions.

Having a large, robust legume seed bank means that producers can switch their paddocks between crop and pasture production very quickly. This is a very useful attribute that allows growers to take advantage of changing commodity prices and/or seasonal conditions.

Species suitability to soils and climatic conditions

Hardseeded legumes and their rhizobia vary in their suitability to differing soils (see Table 1). All hardseeded legumes in this article have superior tolerance to drought conditions compared to traditional legumes. In NSW, under extreme drought in 2019, the hardseeded legumes produced an average of 4 t DM/ha compared to <0.5 t DM/ha for traditional legumes where rainfall was less than half the long-term average. All produced adequate seed, resulting in the formation of a robust seedbank for the following years, while subterranean clover did not. On the neutral/alkaline sandy loams of SA and Victoria. annual medics have continued to perform well.

Capacity to produce 4 t DM/ha under severe drought conditions provides opportunity to maintain breeding flocks, finish animals and build soil fertility. Wheat grain yield at Ungarie in NSW following legumes in 2020 were >3.8 t/ha without adding nitrogen fertiliser. In contrast, subterranean clover and annual medic plots needed application of nitrogen at sowing and again at tillering to achieve the same



Bladder clover.



Gland clover.

grain yield. Further, in Ardath and Mingenew in WA, wheat grown over French serradella plots with minimal nitrogen applied resulted in higher yields and proteins than the control. Following a good medic pasture in SA and Victoria, wheat grain yield increased by 1.1 t/ha compared to a continuous cereal treatment.

Factors to consider when sowing pastures containing hardseeded legumes

PADDOCK PREPARATION

Weed control prior to sowing is paramount. Weed competition is the leading factor contributing to pasture establishment failure. A minimum of two, but preferably three, years of stringent weed control leading into pasture sowing should be undertaken.

Check for potential for herbicide residue damage prior to sowing a new pasture. Factors that can influence herbicide breakdown and hence plantback requirements include time elapsed since application, rainfall received since application, soil moisture conditions, soil pH, soil texture and the initial application rate. Make sure to abide by all label requirements and, if in any doubt, seek advice.

SEED FORM AND SOWING TIME

When sowing pasture legumes in autumn, you will almost invariably be purchasing seed that has been scarified. Scarification means that the seed has been processed to achieve a high levels of germination following sowing (generally >90%). When sowing scarified seed, it is advisable to wait for the first autumn rains and then apply a knockdown to control weeds. The earlier in autumn the opening season rains occur followed by application of a knockdown and then sowing of the legume, the higher the production that can be expected to be achieved.

The legumes discussed in this article have capacity to form deep root systems quickly and are better at withstanding warmer and drier conditions in autumn compared to traditional shallow-rooted legumes. This is particularly so for biserrula and serradella which are highly resilient plants.



Yellow serradella.

Table 1. Soil requirements for optimal performance, plus other attributes, for a range of hardseeded legume species

	pH _{ca} (plant)	pH _{ca} (rhizobia)	Soil texture	Soil drainage	Drought tolerance	Rooting depth (m)	Initial hard seed (%)	Hard seed in autumn following seed set (%)
Arrowleaf clover	4.8-8.0	5.5-7.5	Sandy loam to medium clay	Good drainage	Good	1.3	>90	45-60
Biserrula	4.2-7.5	4.8-7.0	Sandy loam to loam	Good drainage	Excellent	1.8	>90	70-90
Bladder clover	5.0-8.0	5.5-7.5	Sandy loam to loam	Good drainage	Very good	1.4	>90	45-60
Gland clover	4.8-8.0	5.5-7.5	Sandy loam to clay	Good to poorly drained	Very good	1.4	90	50-60
French serradella ¹	4.0-7.0	4.5-7.0	Sand to loam	Good drainage	Very good to excellent	1.8	>85	45-60
Yellow serradella	4.0-7.0	4.5-7.0	Sand to loam	Good drainage	Very good to excellent	1.8	>90	50->80

¹Refers to hardseeded French serradella cultivars such as Margurita and Fran₂o

SOWING RATE AND DEPTH

For establishment of monoculture legumes by autumn sowing of scarified seed, seeding rates of 5-10 kg/ha are suggested. Seed of these legumes are very small. For optimal establishment, sow at a depth not exceeding 10mm. Burial below this depth will result in decline in emergence.

INOCULANTS

It is critical when sowing any legume that an inoculant is used that contains the correct rhizobia for that particular legume (see Table 1). If using peat inoculant, make sure treated seed is sown within 12 hours and that there is reasonable soil moisture for rhizobia survival. Granular inoculants have been developed more recently and are convenient to use and some offer greater capacity for rhizobia survival if sowing into dry soil.

MANAGEMENT IN THE ESTABLISHMENT YEAR

The main goal in the establishment year is achieving adequate seed set for future regeneration. Carefully monitor the newly sown pasture for signs of pests and disease. Should these be encountered, take appropriate action to control them.

Where weed issues are observed in newly established pastures, it is important to instigate control early while the weeds are small. The tolerances of hardseeded legumes to herbicides can vary considerably from subterranean clover and annual medics and it is important to seek advice on herbicides that can be safely used and are registered for the purpose.

In some situations, other weed control options may be appropriate. For example, grazing has been a very effective means of controlling many weeds including annual ryegrass, wild radish and capeweed in biserrula due to differences in palatability.

BUC hock b

New strap panels



Legume research trials in WA. PHOTO: Rob Harrison

Weed wipers have also proven to be very effective in controlling weeds later in the growing season that sit above the pasture canopy and where grazing has been used to reduce pasture height below that of the target weeds.

STILL NOT SURE WHAT TO SOW? SOME ADDITIONAL TIPS

A strategy that has worked very well for growers deciding on which hardseeded legume to sow has been to grow small areas (5-20 ha) of a range of legume species in blocks within a paddock. If you've not grown any of these legumes before, it can be a very effective way to reduce the outlay required in seed purchase and allow you to evaluate a number of

species under your farm conditions.

Additionally, growers then have the option to harvest these areas and obtain their own unprocessed seed which can then be used to sow other areas of the farm using establishment options such as summer and twin sowing.

More information

www.wool.com/legumes Dr Belinda Hackney, NSW DPI belinda.hackney@dpi.nsw.gov.au Robert Harrison, CSIRO robert.harrison@csiro.au Dr Ron Yates, DPIRD WA and **Murdoch University** ronald.yates@dpird.wa.gov.au David Peck, SARDI david.peck@sa.gov.au

Back Up Charlie – Flexible Sheep Movement System Adjustable race width

What is Back Up Charlie? Back Up Charlie is a flexible dual lane lead up race for sheep handling applications requiring consistent forward flow of sheep.

Easily transportable

Flexible BUC panels, that

lengthen and

shorten

- Flexible to any sheep yard scenario
- Eliminates physically handling sheep into sheep handlers
- Can be assembled in a straight line or curved bugle format
- Creates a safe low stress environment for you and the sheep
- A labour saving system that increases sheep yard efficiencies
- The lightweight hock bars stop sheep turning around or backing up
- Proudly Australian owned, designed and made in Lockhart NSW
- Henty Machinery Field Days 2016 Machine Of The Year WINNER!

Back Up Charlie W: www.backupcharlie.com.au M: 0428 271 518 E: info@backupcharlie.com.au

Monitoring and evaluating pest predator management

By combining the principles of Lifetime Ewe Management with best practice wild dog and fox control, a group of sheep producers at Mansfield in North East Victoria have increased their total lamb survival rates by up to 5 per cent.

E ight prime lamb and wool producers at Mansfield are taking part in a Meat and Livestock Australia funded Producer Demonstration Site project called 'Less Predators, More Lambs'. The project showcases the implementation of best practice predator control on the participating sheep properties.

The project started in February 2021 and will finish at the end of 2023. It is led by Dr Matt Mahoney of Agridome Consultancy and supported in partnership with the part AWI-funded National Wild Dog Management Coordinator Greg Mifsud of the Centre for Invasive Species Solutions, and the AWIsupported Community Wild Dog Control Coordinator Lucy-Anne Cobby.

In its first year, the project included three training workshops focused on key sheep management topics and included refresher days on Lifetime Ewe Management (see box right), increasing lamb survival and constructing property specific Pest Management Control Program (PCMPs).

There was also training and accreditation on 1080 baiting. Expert speakers on each topic were involved with running each workshop, including DELWP Senior Local Wild Dog Controller David Klippel on proven techniques for laying 1080 baits, and setting Canid Pest Ejectors and traps.

Support also included on farm guidance from Greg Mifsud to formulate their PCMPs and use the FeralScan app. This was important to ensure each property could focus control efforts where foxes and wild dogs were mostly likely to be found.

Lamb survival rates increase

The producers met towards the end of last year to evaluate their progress so far. The results from the first year showed total lamb survival had improved on all the participating properties in the range of 2 to 5 per cent.

With more than 6,000 ewes scanned to either single or twins being monitored as part of the project, this increase in lamb survival could potentially add significant



The **'Less Predators, More Lambs' workshops** focused on key sheep management topics and included refresher days on Lifetime Ewe Management, increasing lamb survival and constructing control programs using the FeralScan app. *PHOTO*: Lucy-Anne Cobby

dollars to the producers' bottom line.

Post-mortems on a sample of dead lambs collected by producers were undertaken by the local veterinarian to determine cause of death. Although only 40 lambs were collected for post-mortem, 18 per cent were confirmed to have been killed by primary predation with no apparent difference in predation risk as to whether the lamb was a twin or a single.

It is hoped this information can be further substantiated by increasing this dataset over the remaining life of the project.

The group will continue to monitor, evaluate and report their progress of the project until its completion in 2023.

FeralScan app proves easy to use and useful

FeralScan is a free online resource that producers – plus other landholders, community groups and professional pest animal controllers – can use to record information about pest animal activity in their local area. It can be accessed and works through a user-friendly website and phone app. See www.feralscan.org.au for more information.

The producers in the Mansfield 'Less Predators, More Lambs' project formed their own FeralScan app group and used the app to record incidents of livestock attacks, implementation of control and the outcome of control programs.

The app allowed the group to create a map of where they were focusing their control activities, keep records of where they laid baits or traps and helped the group to remain connected and work with their neighbours to coordinate control to get the best outcomes.

The producers reported they were happy with how easy the FeralScan app was to use.



Lifetime Ewe Management (LTEM) was developed using research outcomes of the AWI-funded Lifetime Wool project (lifetimewool.com.au), which ran from 2001 to 2008, and involved growers and researchers in WA, Vic, NSW, and SA.

LTEM courses, supported by AWI, are run in wool producing regions across Australia. The course 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 meet six times 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.

More information

If you are interested in joining an LTEM group in your area, contact RIST's LTEM Program Manager, Bec Malseed on 0407 730 943 or visit www.**rist.edu.au/ lifetime-ewe-management**

Rabbit biocontrol also benefit native plant and wildlife

Some native mammals, like the greater bilby that once inhabited much of Australia, now only survive in areas where rabbits are rarely seen. PHOTO: Martin Harvey

According to a new study, rabbit biocontrol programs not only support the livelihoods of farmers, they also have a positive environmental impact on native ecosystems.

Did you know that European rabbits are Australia's most widespread and destructive agricultural and environmental vertebrate pest? Infesting two-thirds of Australia, and almost all wool-growing regions, rabbits cost Australia on average \$216 million a year in lost farm productivity.

Rabbits actively compete for feed with Australian livestock and, particularly during drought, can strip pastures bare. Grazing by rabbits can prevent seedlings from regenerating; their digging and browsing leads to a loss of vegetation cover, which in turn can result in slope instability and soil erosion.

Rabbits affect wool-growing productivity due to lower stocking rates and/or reduced sheep weight gains, wool cuts and birth rates, leading to financial loss.

However, in addition to their negative impact on agriculture, rabbits are also the single biggest menace to threatened native species. They damage native plants and directly compete with native wildlife for food and shelter. Rabbits are a risk in Australia to

more than 300 threatened plants and



Historical image of a rabbit plague in South Australia. PHOTO: John Carnemolla

animals – more than twice the number of species under threat by cats or foxes – and have been a significant factor in the demise of many species that became extinct following European settlement.

New study: rabbit biocontrol benefits native species

It is well known that the decades of rabbit biocontrol, such as myxomatosis and calicivirus, have had dramatic and widespread benefits to agriculture in Australia. But a new study shows that rabbit biocontrol is also fundamental to the sustained recovery of threatened native species of flora and fauna. The study points to the many documented cases of species recovery as evidence.

"Rabbit control is undeniably essential to the restoration of many Australian ecosystems. It, and feral predator control, are prerequisites for the sustained protection of many threatened species and the ecosystems in which they live." Dr Graeme Finlayson, Bush Heritage Australia

The researchers, Dr Graeme Finlayson (Bush Heritage Australia), Dr Pat Taggart (NSW DPI) and Associate Professor Brian Cooke (University of Canberra), have published their findings in the international journal *Restoration Ecology*, the Journal of the Society for Ecological Restoration.

The researchers scoured the literature for published accounts of environmental recovery following the successive introduction of three biological controls – myxomatosis in 1950, European rabbit fleas that helped spread 'myxo' in 1968, and rabbit haemorrhagic disease (RHDV; calicivirus) in 1995. Key conclusions from the review include:

1. Following the release of myxomatosis there was widespread recruitment of some plant species that had previously been selectively overgrazed by rabbits (eg sheoaks). For some plant communities it was the first big regeneration event since rabbits arrived more than a hundred and thirty years earlier, and the recovery continued until rabbit numbers built up again. Rabbits, even at densities as low as one per two hectares, can prevent the survival of all seedlings of preferred feed species. The widespread regeneration in vegetation led to a subsequent revival of many native fauna.

2. European **rabbit fleas** meant that myxomatosis could spread in winter when mosquitoes (which also spread the virus) were inactive, changing the seasonality of 'myxo' outbreaks. Native grasses became more prolific with fauna, including southern hairy-nosed wombats and swamp wallabies, expanding their ranges.

3. Another wave of regeneration in native vegetation followed the introduction of **RHDV** – so much so that it was observed from space in the Simpson and Strzelecki Deserts. Native pines, needle bush, umbrella wattle, witchetty bush and twin-leaved emu bush were amongst the plants to respond, while several native rodents and small carnivorous marsupials (dusky hopping mice, spinifex hopping mice, plains rats and crest-tailed mulgara) increased in number and greatly expanded their ranges.

"It's well documented that reductions in rabbits ultimately lead to a reduction in cat and fox numbers, and consequently to widespread, long-term benefits for native fauna." Dr Pat Taggart, NSW DPI

Introduced feral cats and foxes are often considered the major threat to native fauna, but the researchers conclude that rabbits accentuate the harm caused by predators. Rabbits reduce the amount of vegetive cover and food available leaving small animals exposed to predation. They also provide a steady meal for the predators meaning that cats and foxes are maintained in higher numbers where rabbits are present compared to rabbitfree situations. The elevated predator numbers exert additional pressure on small native prey.

Concerns are sometimes raised that culling rabbits will cause cats and foxes to target more native fauna. That can happen in the immediate shortterm, but the evidence shows that in the long-term reduced rabbit numbers lead to reduced predator numbers and the prospering of native plants and animals.

(Note: Since 2014, with the detection of two exotic virulent RHDVs, and the coordinated release of the RHDV1 K5 strain, there are now four virulent strains of RHDV present in в Australia's rabbit population.)

More information

View the journal article at https://onlinelibrary.wiley.com/ doi/10.1111/rec.13552

Rabbit R&D Update – 21 March

Centre for Invasive Species Solutions (CISS) and Foundation for Rabbit-Free Australia are presenting a free online Rabbit R&D Update on 21 March, 1-3pm AEDT, at which Australia's leading researchers will share their insights on best practice rabbit biocontrol, its benefits and raising awareness of rabbit issues. For details and to register, visit **www.** rabbitfreeaustralia.org.au/events

Integrated rabbit control methods

For effective control of rabbit numbers, it is important to apply and integrate a number of control methods, as outlined below.

Population knockdown

The first step is to reduce the rabbit population from medium-high densities down to a manageable level. This is usually done by biological control (via natural outbreak or deliberate release) and/or chemical control (eg a poison baiting program) during the non-breeding season.

If RHDV or myxomatosis are already present, then poison baiting should be delayed to allow the disease to reduce rabbit numbers. If rabbit density is low, then extensive control can be started straight away.

Extensive control

The next part of the control program should destroy all source areas (where rabbits are living) and reduce rabbits to very low numbers. Control activities include warren ripping and destruction/removal of harbours which provide rabbits with shelter, such as fallen logs, building debris or dense vegetation. Where the use of heavy machinery is not an option for warren ripping, alternative techniques such as explosives and fumigation may be used.

Extensive control ensures that the rabbit population cannot recover quickly but it must be done thoroughly to ensure success. If any warrens or harbour are not destroyed, rabbit numbers will simply build up again. Sometimes rabbits can also dig back in and 're-open' warrens if ripping is not done thoroughly (deep or wide enough) and the collapse of the warren structure is inadequate.



A clip from the 'Rabbit warren ripping and harbour destruction video available at www.wool.com/rabbits

Mop-up activities

There are usually small numbers of rabbits that survive extensive control, so advanced control is necessary for longterm management. This is where follow-up techniques such as fumigation, shooting and trapping are used in rabbit-active areas. В

More information www.wool.com/ rabbits

 The AWI-supported 24-page Glovebox **Guide for Managing** Rabbits provides useful information on best practice rabbit management for

farmers and other land managers. Access the guide and other rabbit control related information on the PestSmart website www.pestsmart.org.au.

Manual or auto on/off - 24hr timer

solar & battery status

Easy to install or installation can be arranged

Bluetooth connectivity on solar units for

Different size options available 3-metre -



AVTO FEEDERS

Feedtech Auto Feeders





Induction, Containment and Feedlot Feeding 6600

- 240v or 24v DC Solar Option
- Solid galvanised construction
- Troughs sold in 3-metre increments
- Adjustable PVC heights
- Wire retainers standard to pen off either side
- Fit to silo, field bin or Feedtech hopper

5.7-metre DATA CENTRE APP NOW AVAILABLE FOR LIVE DATA ON YOUR PHONE MOBILE TROUGH AUTO FEEDER 6MT & 12MT - HOOK STRAIGHT IN FIELD BIN DESIGNED, ENGINEERED AND BUILT BY FEEDTE(H EST 1995 FEEDTECH

Call David Collier on 0437 225 016 for further information 16-18 Edgar Street, Tatura VIC 3616 | Phone 03 5824 1466 Check us out on Facebook, Twitter & Instagram | www.feedtech.com.au

Market Intellige

Australian wool production levels continue to recover

The mid-point of the 2021/22 season has been reached and passed. By the end of January 2022, 182.6 million kilograms (mkg) of greasy wool had been tested by AWTA, which is 11.2% (18.4mkg) more than was tested in the corresponding seven months of the previous season (164.2mkg).

So far, all states have recorded a year-onyear production growth. NSW remains the largest producing state at 36.9% of the national clip, with the state growing 62% more wool than Victoria, the second largest. Queensland has recorded the largest percentage growth, albeit from a small base.

Significant rain events over the eastern and central states have affected 'normal' shearing patterns and may be skewing some of the production trends. Heat and dry conditions are dominant in WA with the south-west in particular experiencing sharp rainfall decline, with winter cold fronts and lows being the major source of rainfall.

The Australian Wool Production Forecasting Committee (AWPFC) met in mid-December 2021 and updated its forecast of shorn wool production for the 2021/22 season to 318mkg of greasy wool, an 8.0% increase on the 2020/21 estimated shorn wool production of 294mkg of greasy wool.

AWPFC findings stated that: "widespread November rain across most wool producing regions will build on the already exceptional spring season. Pasture feed is plentiful in many grazing regions, while in farming areas crop stubbles will also contribute to an ample supply of summer feed. The abundant feed supply is expected to increase average cut per head by 3.2% to 4.54 kg greasy".

The AWPFC also cited evidence of a flock rebuild with an expected 4.6% increase in the number of sheep shorn to 70.0 million head this season. The favourable seasonal outlook is promoting high levels of optimism among sheep producers. The October 2021 AWI/MLA Wool and Sheepmeat Survey found that 91% of respondents intended to either maintain or increase breeding ewe numbers, through retaining more replacement and older ewes than normal.

Micron profiles shift

Within the Merino sector, as a percentage of the clip, the AWTA's Key Test Data is showing a reduction of both the 18.5 micron and finer superfine sector and medium/broad wools of 20.6 to 23.5 micron. The growth in Merino wools is seemingly targeted at the production of heavier cutting fine wools of 18.6 to 20.5 micron.

The first half of this season though is producing more of the broader (>23.5 micron) wools than what is usual before the Christmas recess. A higher percentage of the broader wool sheep (ewes) are shorn prior to joining in late summer through autumn.

FIGURE 1: AUSTRALIAN WOOL PRODUCTION JULY 2021 - JANUARY 2022



TABLE 1. SUMMARY OF WOOL PRODUCTION ESTIMATES AND FORECASTS FOR AUSTRALIA

	2019/20	2020/21	Change y-o-y %	2021/22 third forecast	Change y-o-y %
Sheep numbers shorn (million head)	68.6	66.9	-2.5%	70.0	4.6%
Average cut per head (kg/head)	4.13	4.40	6.5%	4.54	3.2%
Shorn wool production (mkg greasy)	284	294	3.7%	318	8.0%

Source: AWPFC report, December 2021



FIGURE 2: MICRON PROFILE CHANGE AS % OF CLIP (FIRST HALF SEASON COMPARISON)

nce report

FIGURE 3: EMI DURING THE PAST THREE SEASONS (UP TO 2 FEBRUARY 2022)



Auction volumes increase, prices remain steady

Australian grown bales had been sold to the trade at auction, which is 9.5% (70,174 bales) more than was sold in the corresponding seven months of the previous season (737,089 bales).

Wool values continue to trade in a very narrow band mid to longer term, despite some erratic inter-week movements.

Since the commencement of the 2021/22 selling season, the AUD EMI has moved from a starting basis of 1420ac (per clean kg) to 1433ac after the first sale day of February 2022. This is a very minor adjustment of just 0.9%, but to the positive. The seasonal AUD EMI average is currently sitting at 1361ac.

In the more demand determining currency base of US dollars, the EMI commenced the 2021/22 selling season at 1059usc but has depreciated 3.5% to 1022usc after the first sale in February 2022, indicative of the ever fluid trading and consumer conditions globally. The seasonal average USD EMI is currently sitting at 993usc/clean kg.

Prior to the negative pandemic influences being felt across all global markets from March 2020 onwards, the AUD EMI was at 1,521ac and the USD EMI at 982usc, so the seasonal average USD EMI represents a strong return at least to the pre pandemic levels of demand. That demand appears to be holding and building despite the growing availability of Merino wool. Crossbred wool types overall remain in struggling mode but are showing signs of values increasing slowly, but stock held globally in all forms is still at significant levels.

Shipping and logistics issues remain

Despite some easing in recent months, international shipping costs, port congestion, lag times and problems are likely to remain high in 2022. The Omicron variant is infecting workers at factories, ports, trucking companies and warehouses and leading to further shortages of some products and parts used for making goods.

Many experts are predicting a significant geographical shift in supply chains because of global lockdowns, restrictions and pressures on current global supply chains. Additionally international business conditions remain difficult.

Furthermore, the environmental impact of current logistics and supply chains is beginning to be thought of more, particularly if countries around the world are to meet their emissions' targets resulting from the recent United National Climate Change Conference in Glasgow (COP26). A need to develop more sustainable supply chain practices is predicted. As Australia relies so heavily upon wool manufacturing in China, this is unlikely to affect the wool supply chain, but some consequences may arise from meeting environmental commitments.

Average monthly **EMI** comparison

he chart opposite provides a snapshot of The chart opposite provide a surry how the AWEX monthly Eastern Market Indicator (EMI) and a range of microns have performed for the past three months (November 2021 – January 2022) in Australian dollar terms compared with the previous five years November 2016 to October 2021 (circles) and the decade previous to that, November 2006 – October 2016 (squares).

At the end of January 2022, the EMI was about 65% higher than it was compared to the low point in September 2020 during the depths of the COVID pandemic. However, during the past 12 months, while prices have generally been steadily rising, the market has also been characterised by having a year of relative stability compared to what has been seen in many previous years.

For the past three months, the monthly EMI averaged at \$13.61 which is a 16c rise from the average monthly EMI for the previous three months, and is tracking at the 26th 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 \$13.61 (November 2021 - January 2022) for 26% of the time.

While the EMI is tracking at the 26th percentile over the previous five years, it is tracking at the 97th percentile when compared to the decade November 2006 - October 2016. This means the current EMI of \$13.61 (November 2021 – January 2022) is higher now than it was for 97% of that decade.

18 micron averaged at a monthly value of \$20.51 (52nd percentile for the previous five years and 100th percentile for the decade before that), 21 micron averaged at \$13.25 (20th percentile for the previous five years but 86th percentile for the decade before that), and 28 micron averaged at \$4.16 (5th percentile for the previous five years and 9th percentile for the decade before that).

For the past three months, Merino Cardings averaged at \$9.05, operating at the 21st percentile for the previous five years and at the 83rd percentile for the decade before that. в

AVERAGE MONTHLY EMI FOR NOVEMBER 2021 - JANUARY 2022 COMPARED WITH PREVIOUS 5 YEARS NOVEMBER 2016 - OCTOBER 2021 THE DECADE NOVEMBER 2006 - OCTOBER 2016



Market intelligence at wool.com

An important part of AWI's Wool.com website is market intelligence information for woolgrowers.

As well as the Weekly Price Reports and Monthly Market Intelligence Reports, there is a graphical display of:

- Eastern Market Indicator - you can select to display AUD, USD, CNY or EUR.
- Offering – displays bales offered and bales sold.
- Currency movements you can select to display AUD/USD, AUD/CNY or AUD/EUR.
- Forecast of bales sold displays previous season, current season, current week and forecast.

For the first three categories above, you can select to display data from 3 months to 3 years ago.

AWI also continues to send wool prices

and market intelligence direct to about 5,000 woolgrowers' mobile phones. 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. в

More information

Market insights for the New Year

AWI Global Strategic Advisor Peter Ackroyd presents an overview of the current trade in wool, and provides an insight into opportunities for Australian wool in the interiors sector. Mr Ackroyd is a former President of the International Wool Textile Organisation and is Chief Operating Officer of the Campaign for Wool.

Overview of current market conditions (as at mid-January)

1. The **mid micron worsted suiting sector** remains in the doldrums, with mills in UK, Italy and China seeing few isolated signs of post-COVID optimism, apart from some relatively encouraging formal wear activity in Greater China. The UK, US, Japanese and German markets are static. However, several retailers did see a 'mini boom' in formal/ festive wear in the run up to Christmas 2021 and hopes are currently pinned on another as the spring approaches.

2. **Finer micron Merino worsteds** are seeing some interesting activity in a relatively rarefied sector of the formal market, particularly in the much discussed global made to measure business. This trend is reflected in positive superfine Merino prices.

3. **Knitwear**, in all gauges, continues to outstrip even the most optimistic of predictions, with key spinners across the manufacturing spectrum reporting business well exceeding 2019 levels.

4. A strong knitwear market traditionally encourages semi casual and casual woven woollen business and vertical woollen mills are benefiting accordingly, working well above pre-2019 levels. Traditional sports jackets, casual jackets, men's and women's conventional and quirky coats, layered accessories (stoles, ponchos, scarves) and headgear, all feature prominently this winter season. Furthermore, woollen mills are in an advantageous position to be able benefit from the current boom in the interior textile sector (see below), to the point where several weavers are seeking outsourced commission loom space to cope with demand.

5. The boom in the woollen business does not mean the product is confined to crossbred Shetland and Cheviot types. The look is a perfect opportunity for **woollen spun Merino lambswool**, as more exclusive brands eschew the hard handle in wovens that comes with Shetland and traditional tweeds.

6. Fine count spinners are reporting particularly buoyant activity in the **outdoor and next to skin market**, but offer the following caveat: next to skin and outdoor Merino products must be seen as the smart sports equivalent of indoor cashmere products. They are for the well-heeled urban elite crowd, who winter in St Moritz and summer in St Tropez.

Merino worsted mills join woollen mills in exploring the world of interiors

The crisis in the formal clothing market has forced the global bulk worsted industry to face the fact that dabbling in next to skin apparel, sports shoes and handbags is in no way going to compensate for the loss of 140 million metres and more of apparel Merino in the suit, jacket and trouser market.

Fortuitously, a growing number of mills are considering doing what Yorkshire Woolmark licensee Abraham Moon did some twenty years ago when a visionary Board set about developing an upholstery collection with the same base cloths the company had been using for apparel for more than 130 years.

At the IWTO Wool Round Table, held virtually towards the end of last year, one of the keynote speakers was Madam Chen, the redoubtable CEO of Jiangsu Sunshine Group, a semi vertical mill producing 35 million metres of worsted Merino each year... a formidable mouth to feed. More than a year ago, it was clear Chinese and many more global Merino worsted suppliers had lost up to 80% of their US business, and much of their Japanese business, due to the pandemic and the inexorable decline of middle market formal wear.

During the IWTO China Chat Room,



Madam Chen announced Sunshine was involved in a major product conversion process to produce furnishing fabrics (initially curtaining) to compensate for the dismal performance of formal wear outside Greater China. Sunshine has made some significant progress with the project, has already applied for a Woolmark interior licence and is planning a keynote press conference to announce the new interior textile collection in the very near future.

I asked Beryl Gibson, the UK representative on the Première Vision Fashion Committee and an independent fashion and interior textile consultant, about fabric conversion from apparel to interiors. Beryl noted: "Upholstery transcends seasons, which is a very attractive proposition for a mill involved in several apparel collections a year between autumn/winter and spring/ summer. Fabrics are not fundamentally different and are often 21-to-26-micron, high twist in plain or semi plain weaves for upholstery, where yarn texture in the fabric is important. Curtains and sheers, another important area where worsted Merino fabric is ideally suited and fit for purpose, is currently dominated by linen, cotton and polyester."

Much, but by no means all, of the interior textile work at the Campaign for Wool has been in the carpet industry where non flammability has been championed as one of a wool carpet's greatest attributes. This equally applies to wool worsted interior cloths for drapes, wall coverings, domestic, office, car, and transportation seats.

Several Woolmark licensees in UK, particularly woollen mills like Moon, have an apparel/interior product mix that has steered them through troubled waters on many occasions. Perhaps it is time other wool worsted apparel weavers sought similar 'solace' in a sector that is increasingly seeking ecological, environmental and all-important indoor health and safety guarantees... properties that wool naturally supplies.

Use the NWD so your wool attracts the highest price

All woolgrowers are being urged to complete the National Wool Declaration (NWD), regardless of their Mulesing Status. The NWD provides transparency to buyers and helps woolgrowers earn Premiums and/or avoid Discounts for their wool.

The National Wool Declaration (NWD) enables woolgrowers to communicate directly with prospective buyers, processors and retailers and them back to woolgrowers. Whenever AWI discusses the Australian wool industry's animal welfare with brands and retailers along the supply chain, they invariably say that they would very much like all Australian woolgrowers to declare their wool through the NWD; it creates two-way transparency and feedback in the marketplace.

Once a woolgrower has completed the NWD, which is voluntary, the contents are converted for inclusion in sale catalogues and test certificates.

The message is clear. To ensure your wool attracts the highest price possible, you need to ensure that your wool for auction is accompanied by an NWD.

All woolgrowers are encouraged to complete the NWD, regardless of their sheep's breed and wool type, and regardless of mulesing status. Completing the NWD is about giving our global customers assurance of the quality and integrity of Australian wool.

The percentage of bales accompanied by a declaration of their Mulesing Status rose from 43.4% for the 2013/14 season to 76.1% for the 2020/21 season (see Table 1 below). However, it is a concern that wool brokers and woolgrowers are still auctioning about a quarter of bales sold as Not Declared (ND).

From a financial perspective, it is clear that woolgrowers usually receive premiums for wool declared as Non Mulesed (NM), Ceased Mulesing (CM) and (to a lesser extent) wool declared as mulesed with Analgesic/ Anaesthetic (AA).

However, do you and your wool broker know that wool sold as Not Declared (ND) usually receives a Discount compared to wool that is declared as Mulesed (M)? See Table 4 opposite. Based on this data, it would likely be financially advantageous for you to complete the NWD and declare your wool as Mulesed

KEY MESSAGES

- To attract the highest price for their wool, all woolgrowers, regardless of their Mulesing Status and wool type, should ensure that their wool is accompanied by an NWD.
- The NWD declaration rate has increased each successive season from 2013/14 to 2020/21.
- Failure to complete an NWD has usually resulted in the wool being discounted.
- Declaration rates for NM wool continue to climb (currently 17%) and declaration rates for AA wool remain high (40%).

(M), rather than not complete the NWD.

AWEX developed the the National Wool Declaration (NWD) for Mulesing Status in 2008 in consultation with the Australian wool industry and has been collating Mulesing Status data declared in the NWD ever since. Below is a summary of this information since 2013.

Mulesing Status is recorded as Non Mulesed (NM), Ceased Mulesing (CM), Anaesthetic &/or Analgesic (previously Pain Relief, PR) used at mulesing (AA), the specific box Blank - which is interpreted as Mulesed (M) and Not Declared (ND). The following figures are based on: % sum of bales, all breeds & wool types, first-hand offered, P&D Certs, excl. NZ. The current 2021/22 season is the year-to-date 31 January 2022.

More information

www.awex.com.au/market-information/ mulesing-status

Table 1. NWD declaration rates (%) by Mulesing Status (all wool sold by AWEX Auction)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22*
NM	6.3	7.5	9.1	9.9	11.5	13.0	14.1	15.0	17.0
СМ	2.4	2.8	2.8	2.9	2.6	2.5	3.6	4.1	2.7
AA	14.2	18.8	22.8	27.7	31.6	35.6	38.7	40.7	40.0
М	20.4	20.4	20.3	20.6	20.3	19.1	17.3	16.3	14.8
ND	56.6	50.5	45.0	38.8	34.1	29.8	26.2	23.9	25.5
National Decl. Rate	43.4	49.5	55.0	61.2	66.0	70.2	73.7	76.1	74.5

Table 1 shows that the NWD declaration rate (NM, CM, AA and M) increased each successive season from the 2013/14 season (43.4%) to the 2020/21 season (76.1%). Declaration rates for NM continue to climb and rates for AA remain high. Declaration rates for M only continue to fall.

Table 2. NWD declaration rates (%) by State (all wool sold by AWEX Auction)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22*
TAS	47.0	50.8	67.2	79.9	81.1	81.6	83.9	87.0	82.2
SA	45.4	55.7	61.3	66.6	71.0	77.1	80.5	83.0	79.3
VIC	51.3	60.9	65.2	76.0	79.3	82.3	84.7	82.8	79.1
NSW	49.4	56.3	63.1	68.1	71.4	75.3	80.6	81.4	79.2
QLD	35.0	39.5	47.4	52.7	64.5	75.0	83.0	80.3	84.6
WA	23.7	20.9	23.9	31.1	34.4	40.3	42.9	50.7	51.6
National Decl. Rate	43.4	49.5	55.0	61.2	66.0	70.2	73.7	76.1	74.5

Table 2 shows on a state-by-state basis that the NWD declaration rate (NM, CM, AA and M) for most states increased from the 2013/14 season to the 2020/21 season. Tasmania was the highest in 2020/21 with 87.0% declared and WA continues to lag at only 50.7%.

Table 3. NWD declaration rates (%) of each State by Mulesing Status - for the current 2021/22 season (YTD 31/01/22) (all wool sold by AWEX Auction)

	QLD	TAS	SA	NSW	VIC	WA	Total Bales
NM	34.8	38.1	9.4	21.5	18.0	5.6	127,043
СМ	3.2	10.2	2.0	3.2	3.2	0.5	20,490
AA	30.8	29.7	50.9	38.9	43.6	32.4	299,402
М	15.9	4.2	17.0	15.6	14.3	13.1	110,453
ND	15.4	17.8	20.7	20.8	20.9	48.4	190,911
Total Bales	22,820	23,195	118,484	304,480	144,549	134,770	748,299
% Declared	84.6	82.2	79.3	79.2	79.1	51.6	74.5

Table 3 shows the states with the highest NM declaration rates are Tas (38.1%) and Qld (34.8%), while the states with the lowest NM declaration rates are WA (5.6%) and SA (9.4%).

Table 4. Premiums and Discounts for Mulesing Status (c/kg clean) (comparison with declared as Mulesed)

					Merino							
		16	17	18	19	20	21	22	27	28	29	30
					Non	Mulesed						
	2015/16	10	15	7	8	8	1	-15	0	-1	1	4
	2016/17	14	15	30	13	21	18	-12	-1	11	-5	-1
	2017/18	36	44	57	44	36	18	-13	20	6	1	2
SEASON	2018/19	47	53	46	38	20			12	8	7	1
	2019/20	55	43	43	37	34	28	34		5	12	
	2020/21	33	27	32	26	19	19			0	6	2
	2021/22*	60	79	65	45	47			7	9	4	
					Cease	d Mulesing						
	2015/16	51	15	3	8	5	4	-1	2	5	-8	-3
	2016/17	1	21	15	5	5	3	8	30	9	-20	20
	2017/18		68	8	19	4	0	-10	-8	4	-5	5
SEASON	2018/19		53	21	-1	3				15		9
	2019/20	37	29	37	-1	4	12			3	4	
	2020/21		1	3	8	8	3			1		
	2021/22*		57	34	27							
	_				d with Anae							
	2015/16	2	2	-4	0	1	0	2	8		9	14
	2016/17	6	-1	6	1	3	4	0	14	19	-11	12
	2017/18	24	4	5	8	1	3	1	27	6	-2	- 1
SEASON	2018/19		3	0	2	3	2	-2	0	13	23	
	2019/20	18	15	12	0	1	- 1	6	18	0	-3	
	2020/21	19	12	10	11	11	5	3		4	7	2
	2021/22*		28	24	18	14	0	11	14	6	3	
	2015/4/	0	Г	0		Declared	0	0	/	/	0	0
	2015/16	8	5	-2	-4	-4	0	0	-6	-4	-2	-2
	2016/17	-1	6	1	-12	-7	1	-3	1	0	-2	1
CEACON	2017/18		6	11	-9	-4	-2	-9	-8	-2	-9	0
SEASON	2018/19	10	2	-4	-8	-2	-5	-3	-21	-8	-10	-18
	2019/20	-12	-3	-1	-6	-4	-3	-10	-12	-11	-6	
	2020/21		-4	2	-5	-6	-1	-2	•	-8	-4	
	2021/22*		2	-5	-1	-5	-4		-9	-6	-4	-1

 \ast The 2021/22 season in all tables is the year-to-date 31 January 2022. Source for all tables: AWEX

The calculation of Premiums and Discounts (c/kg clean) for Mulesing Status requires that as many criteria as possible are held constant. The following describes the dataset used: ٠

Australian stored; Merino fleece/weaners and crossbred fleece >30 N/ktex, >60% Schlum Dry Yield, <2.2 VMB, Styles 4/5, Good/light colour (incl. H1), P Certificate Lengths according to diameter range: 70–95 mm (<18 μm), 75–99 mm (19–21 μm), 83–104 mm (22–24 μm), 90–110 mm (26–29 μm), 100–130 mm (30–34 μm)

- Records per group (micron/NWD status) >2, empty cells when not enough data to generate a P or D.
- Comparison with prices for wool declared as Mulesed.

Opportunities and challenges facing woolgrowers in 2022



Here, the members of the AWI Woolgrower Industry Consultation Panel (WICP), as representatives of their members/sectors, each tell our readers what they consider to be the biggest challenge and biggest opportunity facing Australian woolgrowers this year.

Bindi Murray



Pastoralists and Graziers Association of WA

Kunmallup Pastoral Co, Woodanilling, Western Australia

Challenge: "I think that COVID challenges will still be present in the wool industry in 2022 and access to skilled staff, good contractors and appropriate animal health products will mean that sheep farmers will still need to work hard and juggle to get their animal husbandry done effectively and keep productivity up."

Opportunity: "I see a big opportunity in getting the EU to formally recognise the inherent eco credentials of wool and woollen products vs petroleum-based fibres, which would cement the role wool can play in reducing textile waste."



Max Wilson

Australian Association of Stud Merino Breeders Wilgunya Merino Stud, Dirranbandi, Queensland

Challenge: "The biggest challenge facing the wool industry and Australian woolgrowers in the immediate future is the proposed EU labelling laws. We believe they are completely flawed and very biased towards synthetic products that the world should be making every effort to get rid of in this modern clean green environment that the world is promoting that it wants to belong to."

Opportunity: "Obviously COVID continued to disrupt our world and has treated the wool industry harshly initially but we are clawing our way back, regaining more than half our losses to date. Freight and shipping in particular are issues that hopefully will sort themselves as we move forward in 2022."



Monica Ley*

Australian Wool Growers' Association

Canowie Poll Merino Stud, Coonalpyn, South Australia

Challenge: "Following years of worsening labour supply across rural industries, in 2022 Australian woolgrowers will be facing the challenging continuation of these shortages. This is particularly notable across the shearing and contracting sectors."

Opportunity: "There is a significant opportunity for Australian woolgrowers to be more active in diverse markets and not rely on a majority single market. One of the greatest opportunities for woolgrowers is to meaningfully engage and support young people in wool to ensure that this next generation has the skills, networks and confidence to continue to grow the industry they will be inheriting."

*Tom Moxham will be the new representative for 2022.



Ed Storey WoolProducers Australia Werong', Yass,

New South Wales

Challenge: "The biggest challenge facing us in 2022 is the availability of shearers and shed staff. Other significant challenges are trying to get AWI to be more relevant and work with the appropriate people and bodies in the industry, getting our animal welfare and sustainability settings correct and ensuring we are innovating to remain competitive with the opportunities being presented by the sheepmeat sector."

Opportunity: "The biggest opportunity is to get our animal welfare and sustainability story told to our customers. Trust in Australian Wool and the Sheep Sustainability Framework provide wonderful opportunities to tell this positive story."



Australian Superfine Wool Growers Association 'Riverton', Armidale, New South Wales

Challenges: "We consider there are many threats to the wool industry including the lack of value placed on superfine wool by opponents of the wool industry. We need to have a voice with a more positive story based on scientific research combined with years of sheep farming experience. This is to counter the uninformed minority interest groups who lack 'on the ground' understanding. We need to foster this important, unique and irreplaceable section of the wool industry and provide longevity and sustainability. Other equally important threats include the rise and rise of lamb and mutton prices which compete for similar land types. Also, the ongoing decline of shearers and quality wool handlers."

Opportunities: "Eco green credentials; wool is a natural product that is easily grown and harvested, renewable and biodegradable; it doesn't add waste products to the environment unlike man made products. Combine this with a wool pipeline which isn't operating at its potential due to COVID and there are significant opportunities."



Nicholas Cole

Broad wool representative West Cloven Hills, Bookaar, Victoria

"The biggest challenge and opportunity for broad wool is to get more manufacture and use of heavy fabrics for use in the interior textiles in both automotive, light industrial and housing markets where wear and durability are required, along with all wool's natural ability. The challenge is to bring new products to the market and replace the reliance on non-sustaining synthetics."



Dave Vandenberghe

Wattle Dale Merino Stud, Scaddan, Western Australia

Challenge: "The biggest challenge is labour shortage and the cost of labour. With labour costs rising up 40% and a lack of experience, this would also include the shearing industry and trucking. We cannot afford to expand our industry because of it."

Opportunity: "The greatest opportunity now would be to take back control of our industry and our direction forward beginning with dispelling some myths and getting the truth about our fantastic product out to the wider community."



Tom Kirk

Commercial Merino Ewe Competitions Association Bundemar Merino Stud, Baldry, New South Wales

Challenges: "With rising land and input values – wool needs to keep pace. Sourcing skilled and willing labour at any price has been difficult."

Opportunities: "With a good season (which does present management challenges) and good stock prices, the wool pipeline has kept flowing through COVID with buyers wanting wool, whilst shipping delays have caused headaches for delivery. But industry is well placed for a COVID recovery with a natural, sustainable fibre; it is an exciting time to be in sheep with stock prices so good."



Richard Keniry

MerinoLink Kildara Pastoral Company, Cumnock, New South Wales

Challenge: "As Australian woolgrowers, we must remain focused in 2022 on producing the highest quality product possible. Continued pressure from around the globe on animal welfare practices, the evergrowing market of alternative 'cheaper' products, shearer availability and increased global meat demand are all combining to push some growers away from wool and towards easy care meat sheep, or more techsavvy industries such as cropping."

Opportunity: "This presents committed woolgrowers with an opportunity to utilise all the tools available to us to make better on-farm decisions. I believe we need to continue to focus on increasing the adoption of data collection and further utilising genetic tools, such as genomics, to enhance the breeding of productive wool-growing sheep in Australia. We also need to be mindful of what our consumers are asking of us while we strive to push the boundaries in technology adoption with a key focus on encouraging the younger generation to stick with wool."

What is the AWI Woolgrower Industry Consultation Panel?

A crucial component of AWI's consultation with industry is with woolgrower representative bodies. The model for consultation that was rolled out in 2019 enables AWI to find out the key R&D and marketing priorities of these bodies and the woolgrowers that they represent, while also providing them with information on AWI activities and performance.

In developing the new consultation model, AWI sought to ensure that it was inclusive of more groups, to bring feedback from the varied regional and organisational perspectives, while ensuring there was a core group that AWI could engage more regularly with on more specific issues.

There are two key forums through which AWI formally consults and engages with woolgrower representative groups. Firstly, the **AWI Woolgrower Industry Consultation Panel** (WICP) which is made up of national woolgrower representative organisations, the Department of Agriculture, AWI and an independent chair (currently Lyndsey Douglas). Communiques from WICP meeting are available on the AWI website. The second forum, the **AWI Woolgrower Consultation Group** (WCG) is a broader group comprising representatives of 28 state and regional production-based woolgrower groups, as well as the members of the WICP.

More information

www.wool.com/consultation Woolgrowers wanting to provide feedback to AWI through the WICP or WCG are encouraged to contact their member organisation.

Get connected! AWI online communication channels

AWI offers a range of online choices to Australian woolgrowers and other stakeholders for them to access the very latest information about AWI activities and products.

AWI Grower App

Available on iPhones and android phones, the AWI Grower App is the latest digital communication channel between AWI and Australian woolgrowers. You can customise the App to prioritise the content you want to receive, and with continually updated and relevant content and functionality, the App is built to suit *your* needs.

See the back page of this magazine or **www.wool.com/growerapp** for details.

AWI social media channels



@AustralianWoolInnovation

5,790 followers





Wool.com website

Wool.com is designed specifically for Australian woolgrowers seeking information on lifting profitability. The website covers the full range of on-farm topics and has a strong focus on market intelligence and on-farm tools. The Wool.com website received 232,000 visits during the past financial year. Head to **www.wool.com** to view the website.

Beyond the Bale magazine also has its own website. The interactive 'flipbook' style website includes videos, a search function and an archive of the magazine back to 2009. Head to **http://beyondthebale.wool.com** to view the magazine online.





The Yarn podcast

Having launched more than 210 episodes, AWI's weekly *The Yarn* podcast is the wool industry's No.1 podcast. On *The Yarn*, you can learn more about AWI's projects from the people at the cutting edge of R&D and marketing. Each episode averages about 20 minutes in length and each currently averages about 1,000 downloads.

The Yarn can be listened to on a smartphone, tablet or computer at **www.wool.com/podcast** OR on Spotify OR download the podcast to your iPhone.

The Woolmark Company

88,700 followers

AWI's subsidiary The Woolmark Company also has a range of digital channels including the **Woolmark.com website**, **e-newsletters** (visit woolmark.com/subscribe for your free subscription) and **social media channels** through which woolgrowers and other stakeholders can view the company's marketing initiatives. The social media channels include:



Facebook @thewoolmarkcompany 753,700 followers

Instagram @thewoolmarkcompany



Twitter @woolmark 44,100 followers

AWI e-newsletters

and commentary

(monthly)

(quarterly)

free subscription.

1. Weekly wool market summary -

3. AWI woolgrowers' e-newsletter

4. Beyond the Bale e-newsletter

AWI produces several free e-newsletters:

including weekly price movements

2. Daily and weekly price report (via SMS)

Visit www.wool.com/subscribe for your



YouTube The Woolmark Company 7,640 subscribers

Seasonal conditions forecast

Chance of above median rainfall Chance of above median maximum temperature March 2022 to May 2022 March 2022 to May 2022 50 8 33 충 -8 2 24 N 20 88 윤 a 2 24 Chance of exceeding median rainfall (%) Chance of exceeding median max. temp. (%)

Source: © Commonwealth of Australia 2021, Bureau of Meteorology, issued 17 Feburary 2022

'Extreme climate' forecasting tools for farmers

On the Bureau of Meteorology website, there are a range of tools that provide primary producers with access to information about potentially extreme climate conditions for their local area.

The user-friendly maps show the likelihood of the weather being:

- Unusually dry
- Unusually wet
- Unusually cool
- Unusually warm

in the weeks, months and seasons ahead.

As well as providing a map for the whole of Australia, the new tool allows people to drill down and search for **specific, highly localised areas** so they can see what may be in store for them.

This new tool is part of the Forewarned is Forearmed project, a partnership between government, research and industry sectors, funded through the Rural R&D For Profit Program.

Minister for Agriculture David Littleproud says the new tools are in response to the increasing need for information about unseasonal and extreme weather events.

"Importantly, the maps have been tried and tested with farmers across Australia, who have found them helpful for anticipating climate conditions. They say the outlook maps will help them make decisions around purchasing and applying fertiliser, crop planning and stocking rates because they will have a better understanding of likely conditions in the coming months," he said.



View the new outlooks and features on the Bureau's website at **www.bom.gov.au/climate/outlooks**. Select the 'Chance of extremes' buttons in the left-hand menu bar (in 'Rainfall' and 'Temperature') to see the new outlook maps. Entering your town name using the search option, or clicking on your location on the map, will pop up additional climate outlook information.



If you email or tag a photo that gets published in Readers' Photos, you'll receive from us a paperback copy of the Kondinin Group's 'The Story of Wool'.

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**, or you can tag us #beyondthebale on Instagram.

If you email or tag a photo that gets published in Readers' Photos, you'll receive from us a paperback copy of the Kondinin Group's The Story of Wool.



JUMPING WOOLLY JUMBUCK!

"It wouldn't be sheep work without jumping woolly jumbucks!" said **Edwina Moutray** of **Codrington** in south-west **Victoria** who took this photo. Her son was calling out lines from his favourite books over Edwina's shoulder as they laughed and enjoyed the acrobatics on display. This line from Jo Rothwell's *One Yelpy Kelpie's Melbourne Adventure* seemed especially appropriate: "I'm woolly and free! Where next will I go? What else will I see?" exclaimed a daring old ewe called Flossy 0'Faddle. Thanks for tagging the photo #beyondthebale on Instagram, Edwina (@e.m.images_).



BRINGING THE WETHERS IN FOR SHEARING Thanks for tagging this photo #beyondthebale on Instagram, Neil Seaman (@farmerneil?) of Crookwell, NSW. It's a beautifully picturesque walk to the shed for your sheep!



HAPPY DAYS

This is **Coco**, at her nanna's house in **Old Beach, Tasmania**. Coco's mother, **Lisa Roberts-Scott**, said all her children are lucky enough to get to spend time enjoying farm life where she grew up. Lisa's Mum, **Shirley Roberts**, always has the kids involved in shearing and drenching and doing whatever jobs are required. "They come home dirty, exhausted and so happy," Lisa said.



FIRST STEPS

Nine-month-old **Ellena** visiting first-time grandparents **Steve and Narelle Beavis** at their farm in Central **Victoria**, with Squirt the eight-year-old pet Merino.



OUTBACK SUNSET

The beautiful sunsets at Lillianfells Station at **Longreach** in **Queensland** make working long days in the yards a whole lot easier. Thanks to **Russell Poole** for sending in the photo.



CHECKING THE TROUGHS

Maive Larsen checking the troughs at her home in Manjimup, Western Australia, as she is visited by her pet sheep 'Old Lamb' who was orphaned from her Grandad's Merino farm in Boyup Brook. Thanks to **Rachel Larsen** for sending in the photo.



THE CUTEST LITTLE ROUSEABOUT "The cutest little rouseabout I ever did see," said Caroline Hermes from 'Deakin'

at **Bethungra** near Cootamundra in NSW. This is two-year-old **Chloe** having a look at the shorn sheep, and the shearing business up in the shed. Thanks for tagging this photo #beyondthebale on Instagram, Caroline (@reggiekelpie)



SHEEP. FLEECE. FIBRE

Freshly shorn fleece at the property of **Jarred and Krysia Vucic** at **One Tree Hill** in **South Australia**. You can almost smell the lanolin just by looking at the photo! Thanks for tagging #beyondthebale on Instagram, Jarred and Krysia (@homegrownpeasant).

Want to ELIMINATE the CATCHING PEN & DRAG?

The team at Stockpro have designed a Sheep Catching Race that ticks all the boxes!

- Available as permanent prefabricated modules or on a trailer
- Suitable for shearing & crutching
- No power or air required for race
- ► No dragging sheep
- V side race with Anti-backing bars
- Safe & efficient
- Stockpro superior quality.



SEE OUR FULL RANGE ONLINE **www.stockpro.com.au**

Toll Free Ph 1800 354 415

Australian Wool

Download the AWI Grower App

Easily access information for better decision making

Stay up-to-date with what's happening at AWI with the new AWI Grower App.

Get access to the latest weekly market reports, production forecasts, industry news, global marketing initiatives, research and more. A smartphone is all that's required – just scan the QR code on this page to download the App!

You can customise the App to prioritise the content you want to receive and, with continually updated and relevant content and functionality, the App is built to suit your needs.

The App complements AWI's other social media and digital communication channels that include the wool.com website, e-newsletters, The Yarn podcast, Facebook, Twitter, Instagram and YouTube. Download the free AWI Grower App from the Apple App and Google Play stores now.

Download the App today





wool.com

AWI invests in research, development, innovation and marketing activities along the global supply chain for Australian wool. AWI is grateful for its funding, which is primarily provided by Australian woolgrowers through a wool levy and by the Australian Government which provides a matching contribution for eligible R&D activities. ©2022 Australian Wool Innovation Ltd. All rights reserved. GD4383