

Beyond the bale

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PROFIT FROM WOOL INNOVATION
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Australian wool in the America's Cup



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MATTERS



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HANDS-ON
RURAL TRAINING

Beyond thebale

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

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To subscribe contact AWI

P 02 8295 3100 E info@wool.com

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Steve Luxford, Pulse Hub Pty Ltd

P 0429 699 553

E steve.luxford@pulsehub.com.au

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FRONT COVER

In a global showcase of Australian Merino wool, the **America's Cup** team Luna Rossa Prada Pirelli has benefited from the performance attributes of the fibre in its sailing uniform, thanks to a partnership with AWI's subsidiary The Woolmark Company - see page 16.



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



Hear *Beyond the Bale* editor Richard Smith talk about the evolution of this flagship magazine in Episode 155 of AWI's The Yarn podcast at www.wool.com/podcast



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AWI INVESTMENT STRATEGIES

- Marketing
- Sheep Production, Science & Technology
- Consultation
- Processing Innovation & Education Extension
- Traceability

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AWI STATE-BASED GROWER NETWORKS

AWI-supported networks are present in each state.

- Sheep Connect NSW
- Sheep Connect SA
- Sheep Connect Tasmania
- BESTWOOL/BESTLAMB (VIC)
- The Sheep's Back (WA)
- Leading Sheep (Qld)

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

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GETTING ON WITH BUSINESS



Stuart McCullough
Chief Executive Officer
Australian Wool Innovation

Throughout the global COVID-19 pandemic, AWI has continued to work relentlessly for woolgrowers to ensure the sustainability of our industry and profitability for your enterprises.

Retail still weak, but vaccines and China provide optimism

Since my previous report in *Beyond the Bale* three months ago, the COVID-19 pandemic has continued to severely impact most countries across the world, including large wool-consuming countries in the northern hemisphere such as those in Europe and the USA. The lockdowns and social distancing measures have continued to result in lower-than-normal consumption of apparel products (with China a notable exception).

Some apparel segments have been more resilient than others. While the suiting and formal attire sectors have continued to be badly hit in many countries, the knitwear, coats and outdoor/sports sectors have been relatively robust. Higher levels of online purchasing continue to partly offset reductions in consumption at brick and mortar stores.

AWI's marketing teams across the world have continued to focus on (1) retailers and brands that have proven and robust digital retail platforms, (2) large volume, high consumption sectors, and (3) sectors that are seeing a rise in demand, such as active wear.

In contrast to most nations, China's domestic consumption of wool apparel products at retail has not only recovered but has increased compared to previous years. While this is mainly due to the clear recovery of the Chinese economy, it is also due to two other reasons: firstly, the widespread renewal of uniforms for the Chinese public service, and secondly, international travel restrictions causing wealthy Chinese tourists to shift their consumption away from markets like Paris and London to the domestic market.

Building on the success of AWI's recent online marketing campaign during China's autumn (see page 7), our marketing team has been working on a spring campaign, being rolled out this month, to drive awareness for

Merino wool's suitability for trans-seasonal womenswear in China.

Although the relatively buoyant consumption in the Chinese market is not enough to make up for the current poor performance of western consumer markets, the bounce back in China does provide optimism and confidence for coming retail seasons in other global markets, once the rollout of vaccines has reduced COVID-19 infection levels and they are under control. Reflecting the situation in China, we anticipate an upsurge in demand in global markets once daily life returns to some form of normality and consumers begin to indulge in social gatherings once again.

In the trade space, given that it usually takes more than 12 months for brands to develop and roll out their apparel collections, COVID-19 has already somewhat disrupted the 2021/22 northern hemisphere autumn/winter retail season, aside from in China. However, we are hopeful that the level of wool buying by processors will be back to normal during the second half of this year, for autumn/winter 2022/23 collections across the entire northern hemisphere.

It is important to note that while much attention at the moment is understandably on our retail markets, our on-farm R&D and extension projects are largely run in Australia and have escaped the worst of the fallout from the pandemic. They continue to operate largely as normal, although we closely monitor their progress and budgets.

WoolPoll 2021

As we move into 2021, we enter a WoolPoll year, a cornerstone of Australia's wool industry. It is that time when wool levy payers will be asked what percentage of their wool income they would like to invest in research, development and marketing for their industry. Voting is scheduled to open on Monday 13 September and close on Friday 9 November. Eligible woolgrowers will be given up to five options of levy rate to support

and can vote for one or more levy rates in order of preference. An additional question will be added to WoolPoll 2021; it will ask growers if they want a five-year WoolPoll cycle instead of the current three-year cycle. Eligible levy payers will receive their voting papers in September. Further information about WoolPoll 2021 will be in the June and September editions of *Beyond the Bale*.

A better 2021

Without doubt, the economic fallout from the global pandemic during the past 12 months has been very tough for many industries including the wool industry. While I have always been absolutely sure about the resilience of our industry, I am more confident now than I was six months ago that there is light at the end of the tunnel and a recovery is under way. Despite the tough times, the EMI has begun to recover, increasing by more than 53% from a low of 858ac at the beginning of September to 1318ac in mid-February. It is now at its highest level since March last year.

I strongly believe that the premium and natural qualities of our fibre and the relationships we have built along the supply chain during the past decade ensure a positive outlook for Australian wool, not only as the industry recovers from the economic effects of COVID-19, but in the longer term.

The 10-year strategy for Australian woolgrowers, *Wool 2030*, which was developed following extensive consultation (see pages 4-5), has been well received amongst woolgrowers and along the supply chain. The strategy's underlying principle is sustainability: in the careful management of woolgrowers' animals and the land they occupy, and the wellbeing of woolgrowers and their customers – all of which are essential for sustained profitability.

I hope you have all been safe and well during the start of 2021 and remain so throughout the year. **B**



The **Wool 2030** strategic plan, which was released in December, is available at www.wool.com/2030.

Wool 2030: a long-term strategy for Australian woolgrowers

A 10-year strategy for Australian woolgrowers, **Wool 2030**, has been developed following extensive consultation. The strategy's underlying principle is sustainability: in the careful management of woolgrowers' animals and the land they occupy, and the wellbeing of woolgrowers and their customers, all of which are essential for sustained profitability.

The independent chairman of AWI's Woolgrower Industry Consultation Panel (WICP), Lyndsey Douglas, says a deep desire to meet the expectations of consumers worldwide is reflected in the 10-year strategy document's tagline – 'the world's premium sustainable fibre' – which was launched by the industry in December.

"The plan you see today addresses those issues the industry considers key to a prosperous future: driving demand, demographics, perception, profitability and people. It asks today's growers to consider the story of wool internationally in 2030 and what the daily life of a woolgrower in Australia might be in ten years' time. What is also important is to identify efficiencies, promote best practice, to always keep in mind our buyers and customers," Lyndsey said.

"Woolgrowers are at the heart of this 10-year strategic plan."
Lyndsey Douglas, WICP Chair

"The Merino breed continues to be a central focus, a point-of-difference in a competitive global landscape. The plan has an ambitious national flock growth target, and retention of the Merino ewe base at or above its current proportion is crucial to the industry's strength in 2030.

"We know that positioning wool as a rewarding, profitable land-use choice to the next generation landholder is core to meeting our growth targets."

The overall target of the strategic plan is for the Australian wool industry, by 2030, to have grown in value by 2.5% annually from 2019/20. This growth will come from an increase in value per head of sheep of 15% and an increase in flock size from 67 to 75 million, with an increased proportion of Merinos in the ewe flock.

The plan has a focus on meeting the needs of all woolgrowers in Australia's diverse wool industry.

Addressing opportunities and risks

The **Wool 2030** strategic plan describes how the Australian wool industry faces a decade of unparalleled opportunity: "Wool has many outstanding performance attributes as a textile fibre. Increasingly, consumers also seek products with strong sustainability credentials. Wool is the first choice for a sustainable fibre because it is natural, renewable, recyclable and biodegradable."

Wool 2030 explains that technology also offers great opportunities for wool in the modern world. "More than ever before, woolgrowers can converse with their customers, both to understand what different markets require, and to convey the story of Australian wool production. A wide range of product specifications, including raising claims, can be transmitted with the physical product and price signals conveyed to farm level. Technology also promises to solve some of the challenges of wool production such as efficient harvesting and management of pests and disease. Advances in genetics offer even further improvement in Australian sheep and the wool they produce."

However, **Wool 2030** says there are also significant strategic risks to the industry: "In the late 20th Century, key wool industry risks were largely concerned with technical and commercial attributes of the fibre – price, production, specifications, processing and product performance. Today, those same industry risks remain but have been added to by what are best described as 'social licence' risks – animal welfare, environmental sustainability (regeneration), emissions profile and so on."

The strategy has been well received by industry along the wool supply chain. In the **Wool 2030** document's forward, Chairman of Ermenegildo Zegna Group, Paolo Zegna, says it's crucially important to consolidate the Australian wool industry's leading position in terms of quality and quantity of wool produced.

"The whole wool supply chain has to move in the same direction. All growers must follow the same path together with their clients downstream, to all aim in reconfirming Australian wool as the best in the world."

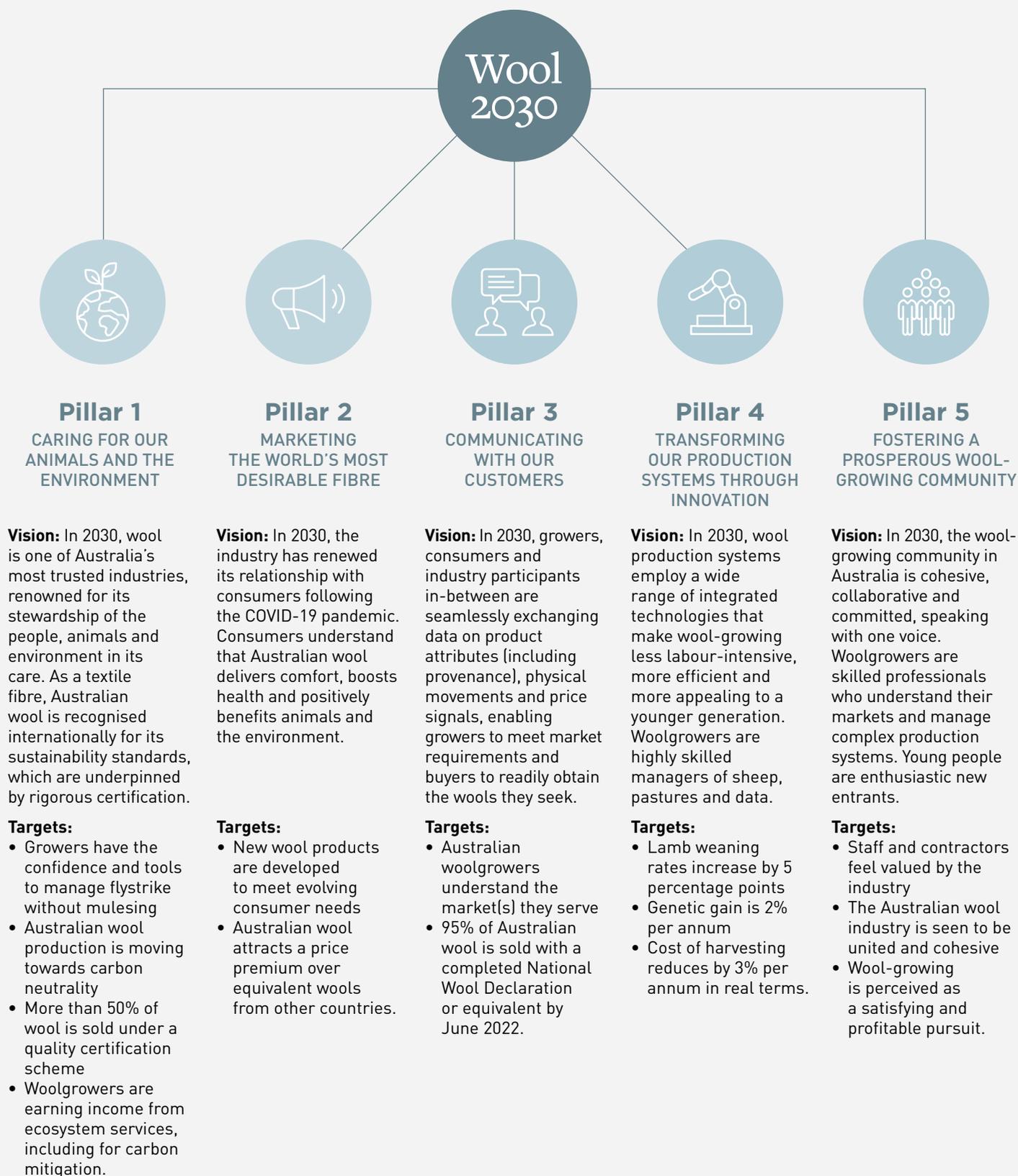
Plan development and consultation

The development of a 10-year strategy for Australian woolgrowers was one of the recommendations of the 2018 review of performance of AWI by Ernst and Young.

The resulting new strategic plan, **Wool 2030**, was facilitated by AWI and overseen by AWI's Woolgrower Consultation Group (WCG), which comprises 29 production-based woolgrower group representatives from across Australia, 'next generation' representatives invited by each WCG member, as well as Lyndsey Douglas and a representative of the Department of Agriculture, Water and the Environment.

There was wide consultation during the development of the plan. Initially, a series of five discussion papers on key topics were prepared to inform debate by the WCG and the next generation representatives. Following WCG webinars, small-group consultations were undertaken with brokers, buyers, processors, state farming organisations, AWEX and AWTA. An industry online survey was also run for five weeks which attracted more than 850 responses.

Vision and targets of the Wool 2030 strategy



Putting the plan into action

The plan has deliberately been designed as a high-level, aspirational statement of intent and strategy for Australian woolgrowers.

AWI will assist in the coordination and implementation of the plan; the *Wool 2030* plan will be a key reference point in the development of AWI's own three-year strategic plans. However, responsibility for

the implementation for *Wool 2030* extends beyond AWI to many other organisations and individuals across the Australian wool industry.

Oversight of the plan will be provided by a Wool 2030 Steering Group comprising an independent chair and industry representatives. The Steering Group will publish a brief, biennial summary of progress against targets, starting in December 2022. **B**

More information:

Download the 36-page *Wool 2030* strategic plan at www.wool.com/2030



Hear Chair of the Wool Industry Consultation Panel, Lyndsay Douglas, talk through the 10-year plan in Episode 157 of AWI's *The Yarn* podcast, available at www.wool.com/podcast.

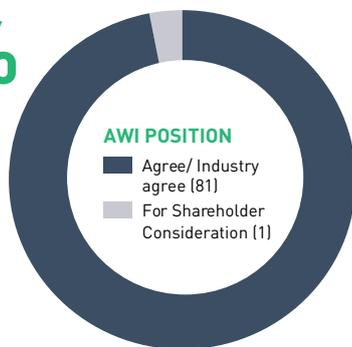
Review of Performance recommendations AWI's progress of implementation

As part of AWI's three-year business cycle, an independent review of performance (ROP) of AWI is routinely undertaken to assess the company's performance. The latest ROP was undertaken by Ernst & Young (EY) for the period 2015-2018. EY's report, which was published in July 2018, included 82 recommendations.

In September 2018, AWI launched its ROP Implementation Portal at rop.wool.com to provide detailed and up to date information to woolgrowers about the progress made by AWI in implementing the 82 recommendations. Displayed right is a summary of the overall progress, and the progress across each of the seven themes of the recommendations.

Further information is available at rop.wool.com

99.45%
OVERALL
IMPLEMENTATION
PROGRESS



THEME IMPLEMENTATION PROGRESS

CONSTITUTION 24 out of 24 recommendations complete.	100%*
GOVERNANCE 22 out of 23 recommendations complete.	99.57%*
MONITORING EVALUATION & REPORTING 16 out of 16 recommendations complete.	100%*
COLLABORATION 3 out of 3 recommendations complete.	100%*
PEOPLE & CULTURE 6 out of 7 recommendations complete.	98.57%*
CONSULTATION 4 out of 5 recommendations complete.	95%*
ROP RECOMMENDATIONS & IMPLEMENTATION 4 out of 4 recommendations complete.	100%*

* Percentage figure is calculated on the cumulative completion rate within each theme. Remaining recommendations at various completion stages. To view individual recommendation progress rates, visit rop.wool.com

Wool face masks

With hundreds of millions of people across the world now wearing face masks every day, wool face masks offer a protective covering and a natural alternative to single use synthetic face masks.

Benefits of wool face masks

- **Soft on skin** – superfine Merino wool has superior softness and proven skin benefits when worn next-to-skin.
- **Breathable and moisture regulating** – wool acts like a second skin, keeping your skin comfortable
- **Reusable** – wool face masks can be washed and re-used.

The continuing global coronavirus pandemic means that wearing face masks continues to be prudent, if not compulsory, for a majority of people across the world including Australia.

Face masks made with Merino wool provide the wearer with a reusable mask that is soft and comfortable, breathable, washable and a natural alternative to synthetic face masks. They can be worn again and again, provided they are washed correctly after each use. And unlike,

disposable synthetic masks, wool is a 100% biodegradable fibre and will decompose when they are eventually disposed of.

Many brands across the world, including Australia, have produced face masks that incorporate some or 100% wool. The Woolmark website features 25 different wool face masks. Head to www.woolmark.com/facemasks to view the facemasks and how to purchase them.

One of AWI's supply chain partners in Europe, Südwole Group, has recently launched two new face mask designs in a multi-fibre blend containing Merino wool. They are reusable, washable and made for daily use.

The seamless knit Merino Mask is soft and breathable with elastic laces and a metal nose piece whilst the Merino Filter Mask offers more than 95% Bacterial Filtration Efficiency thanks to the replaceable filter inside with the combined layering system.

Both are comfortable to wear thanks to the absence of seams and breathable materials that decrease the accumulation of humidity inside. The masks are made in Italy and are being promoted for purchase across Europe at www.iffm.it/en/home-page-suedwollegroup. **B**

More information:
www.woolmark.com/facemasks

These wool blend masks from AWI's supply chain partner, **Südwole Group**, help wearers look cool as well as feel cool.



Project updates: Results in numbers

China TMALL consumer campaign



Capitalising on the immense strength of online retailing in China, AWI collaborated with China's most influential business-to-consumer e-commerce platform, TMALL, to launch a perfectly timed promotion of Australian Merino wool.

The campaign, from 21 September through to 4 November, aimed to educate digitally savvy Chinese millennials about the superiority of Merino wool, while driving purchase intent through digital and social platforms for the Merino wool products of 100 premium Chinese and international brands.

More information:

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581 million

social media impressions

300 million

page views on TMALL's online Wool Pavilion

16 million

campaign video views

353,000

Woolmark-certified garments

60%

of audience now more likely to buy Merino

Vivobarefoot natural footwear range



With support from AWI, leading global barefoot footwear company Vivobarefoot developed a new natural footwear range that incorporates Merino wool. The product development and collaboration between Vivobarefoot and AWI is part of the in-kind service that AWI offers Woolmark licensees and involved no financial outlay by AWI.

Vivobarefoot launched in September its new 'natural' range of footwear that incorporates Merino wool as its key fibre. A digital marketing campaign ran for three weeks from 23 September. Moving forward, wool will be adopted as a core material across all Vivobarefoot's products and AWI is working with the brand on its next project.

More information:

www.vivobarefoot.com/woolmark

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420,000+

emails sent by Vivobarefoot that featured Merino products

32 million

social media impressions

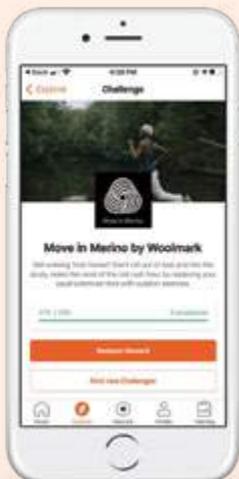
56%

of website wool landing page visitors were new users

Units of Merino shoes at retail in next collection to

TRIPLE

Move in Merino challenge on STRAVA



From 2 to 29 November, AWI ran a community engagement initiative in conjunction with Strava, the exercise-focused social networking platform especially popular with runners and cyclists. The 'Move in Merino Challenge' on Strava encouraged consumers to exercise and commute wearing Merino wool, driving sales of brand partners' products and creating a community of active-minded Merino wool ambassadors.

Participants were challenged to undertake 20 hours of activity during the month, which once completed enabled them to unlock access to exclusive discount codes from some of AWI's brand partners including ashmei, Vivobarefoot, Tracksmith and Iffley Road, thereby encouraging consumers to purchase and exercise in Merino wool products.

More information:

www.strava.com/challenges/Move-in-Merino

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225,000+

total participants

5 million

total active hours

42 million

total miles covered

5,500+

new Woolmark Strava club members

18½ million

total website impressions

Fashion's sustainability focus – the new normal



During the past couple of years, the topic of sustainability has very much moved from the fringe of the fashion industry to the mainstream. The issue is here to stay – and fashion brands are increasingly examining the environmental and social impacts of where they source their fibre and fabric.

Anyone working in fashion and textiles will tell you that 'sustainability' has not only become *the* hot topic for the industry (aside from COVID), but that the topic is now firmly embedded in the industry. Although (and perhaps because) fast fashion is still dominant in the wider industry, there has been a real focus by many brands to discuss, address and improve the environmental and social impacts of their sourcing, manufacturing and distribution.

Take a look at the websites and marketing collateral of the brands that the Australian wool industry is working with or targeting, and you will more than likely see the brand showcasing its eco-credentials and making a public commitment to sustainability.

"Sustainability and natural resource management are of course not new to Australian woolgrowers. For generations, Australian woolgrowers have managed their rural businesses effectively while also undertaking initiatives to protect the natural environment," said AWI CEO Stuart McCullough.

"However, evidence of sustainable wool production is becoming critical to meeting the needs of increasingly environmentally-aware customers, and

thereby ensure continued demand for wool in global markets. Indeed, the more proactive brands are seeking evidence that woolgrowers are actively improving (or regenerating) the land, rather than just sustaining or maintaining the status quo. This is not about income from carbon credits; it goes beyond that."

Furthermore, rather than simply working to maintain current demand and prices for Australian wool, the embracing of sustainability by brands provides the Australian wool industry with a massive opportunity to capture further demand and increase the price of Australian wool. Woolgrowers themselves can use communication platforms (such as WoolQ – see page 61) to tell their story of continuous improvement and connect with customers. Premiums will come to those woolgrowers who can market their eco and sustainability credentials.

Consumer and regulatory pressure

With issues such as climate change and plastic pollution now rarely out of the mainstream news, there has recently been a considerable shift in global consumer

Key points

- In response to significant pressure from global consumers and governments, brands throughout the fashion industry are putting real effort into improving the environmental and social impacts of their products.
- Australian wool has a great story to tell, and the wool industry is on the front foot in evidencing and promoting the fibre's credentials.
- Australian woolgrowers should continue to ensure that their on-farm practices align with the sustainability expectations of consumers.
- 'Regenerative agriculture' is on the radar of the global fashion industry and is receiving a positive reception.

sentiment on matters of sustainability. More than ever, customers want to be confident that the fibre and fabric they purchase has been produced responsibly.

According to the latest Pulse of Fashion report (Global Fashion Agenda, Boston Consulting Group and Sustainable Apparel Coalition), 75% of consumers surveyed (in China, US, UK, France, Brazil) view sustainability as extremely or very important. Furthermore, 38% of consumers report actively switching from their preferred brand to another because it credibly stands for positive environmental and/or social practices.

"Most consumers include sustainability considerations in their decision-making framework."
Pulse of Fashion report

Consumers are becoming attuned to greenwashing and want brands to make genuine change. The State of Fashion report (BOF and McKinsey & Co) states that nine out of ten Gen Z consumers believe companies have a responsibility to address environmental and social issues. The report states: "Fashion players need



Fashion Pact's launch in 2019, and include companies such as Adidas, Armani, Burberry, Ermenegildo Zegna, Gap, Karl Lagerfeld, Kering, Nike, Prada, Ralph Lauren, Salvatore Ferragamo and Selfridges. 80% of members have reported that joining the Fashion Pact triggered an acceleration of the sustainability journey within their organisations.

**“Now is the moment for fashion to commence a new era of sustainability.”
Fashion Pact, Progress Report 2020**

Another body driven by the fashion industry is the Global Fashion Agenda that advocates for policy changes and supportive measures that reinforce sustainability targets and establish circular systems. Ninety brands and retailers, representing about an eighth of the global fashion industry by sales volume have signed the Global Fashion Agenda's current 2020 Commitment for a Circular Fashion System.

Brands are not only *adopting* sustainability initiatives, they are also increasingly *disclosing* their practices publicly. The not-for-profit global movement Fashion Revolution publishes a Fashion Transparency Index annually that ranks 250 of the world's largest fashion brands and retailers according to how much they disclose about their environmental and social policies, practices and impacts. The fifth Index (2020) reports that 42% publish a time-bound, measurable 'sustainable materials' strategy while 36% disclose progress on achieving sustainable material targets (up from 29% in 2019). Furthermore, 32% publish supplier policies on 'biodiversity and conservation' and 57% disclose procedures that address this topic. Participation in the Fashion Transparency Index is influencing brands to disclose more environmental and social information.

Brands are increasingly wanting to source fibre through certification schemes because it reduces their risk of exposure to supply chain issues and allows them to confidently be able to continue using the fibre knowing that they have some protection.

An opportunity and a threat

This increasing demand for sustainably produced fibres and fabrics is both an opportunity and a threat to the Australian wool industry. On the one hand, and in stark contrast to synthetic man-made fibres, wool is a natural, renewable and biodegradable fibre and does not contribute to microplastic pollution. So wool is therefore well placed to take advantage of the increasing focus for more earth-friendly products.

On the other hand, animal welfare, emissions from agriculture, chemical usage throughout the wool supply chain and some processing treatments are a cause of concern for the fashion industry. Furthermore, there is fresh competition from new fibres on the market, such as TENCEL™ (cellulose fibre made from wood pulp) and ECONYL® (recycled nylon), that

tout themselves as being sustainable and which have been receiving a lot of attention.

For its part, AWI continues to undertake and publish comprehensive scientific evidence of wool's true environmental credentials (which you will have read about in previous editions of *Beyond the Bale*). This helps enable AWI's marketing arm The Woolmark Company and the wool industry to market Australian wool to the fashion and textile trade, consumers and legislative policy-makers as the 'planet-friendly' fibre of choice.

"It is vital that the whole Australian wool industry, including woolgrowers, understand the predominance of sustainability issues for its downstream customers – and act on it. Tackling these issues on-farm (and along the supply chain) and marketing evidence of progress are critical to not just securing a 'clean, green' reputation for the Australian wool industry and maintaining 'social licence', but also grasping new opportunities for increasing demand and higher premiums for Australian wool," said Stuart McCullough.

**“Consumer behaviour, especially among the younger generation, calls for more and more attention to sustainability and therefore to breeding and manufacturing methods that protect animals and the environment. Consumers are also willing to pay a higher price if the values underpinning production of the raw materials are compatible in this regard.”
Paolo Zegna, Chairman
of Ermenegildo Zegna Group**

Many Australian woolgrowers, of course, already undertake initiatives to protect, preserve and improve the natural resources on their properties for future generations and are constantly adapting their animal husbandry to reflect consumer demands. Possessing a natural affinity with the land, these farmers are rightly proud of ensuring their innovative farming practices are applied in harmony with the Australian landscape and environment. But more can always be done.

The Australian wool industry recently developed a 10-year plan (see page 4) and it is entirely appropriate that sustainability is the underlying principle of the plan, specifically that Australian wool be regarded as the world's premium sustainable fibre. Additionally, the Australian sheep meat and wool industry have together been working to develop a Sheep Sustainability Framework (scheduled for release next month) that will help enable the industry to demonstrate its sustainable practices, identify areas of production for improvement, and better communicate with trade customers and consumers.

to swap platitudes and promotional noise for meaningful action and regulatory compliance while facing up to consumer demand for transformational change.”

Brands must respond not only to pressure from consumers but also from governments and regulatory authorities. For instance, the European Union is now considering policy to have environmental labelling on consumer products, including apparel products, as soon as 2022, in an effort to guide consumers towards choosing the most sustainable products.

Brands take sustainability seriously

Fashion brands, especially luxury fashion brands, are increasingly responding to these consumer and regulatory pressures for increased sustainability. It is not only small, niche brands that are embracing a commitment to sustainability, it is the larger brands too.

For example, a global coalition of companies in the fashion and textile industry along with suppliers and distributors, that together represent more than 200 brands and a third of the fashion industry, are signatories to the Fashion Pact. This is a CEO-led commitment to a common core of key environmental goals in three areas: mitigating climate change, restoring biodiversity and protecting the oceans. The number of signatories has doubled since the

CONTINUED FROM PREVIOUS PAGE

What about regenerative agriculture?

There is growing awareness within the fashion industry of 'regenerative agriculture' and brands are starting to take a serious look at it.

Although there are several Australian woolgrowers who are recognised pioneers in regenerative agriculture and there is growing interest in it, and although Australian woolgrowers take good care of the land on their properties, there is considered to be only a relatively small percentage of Australian woolgrowers that would regard themselves as "doing regenerative agriculture".

However, in a recent AWI survey (May 2020) of more than 1,000 woolgrowers, 89% of growers reported using more than one practice to encourage soil health (which is the key aspect of regenerative agriculture). Specifically, 83% preserve groundcover, 74% undertake soil tests, 72% undertake rotation grazing, 65% no-till cropping and 50% sow deep rooted perennials.

So perhaps regenerative agricultural practices are more prevalent than has been supposed. And once those woolgrowers note that their customers in the fashion industry are talking positively about regenerative agriculture, then they might be prepared to use that terminology as an aid to the marketing of their fibre.

So, is the global fashion industry aware of regenerative agriculture?

Yes. Just as regenerative agriculture as a term has been getting more and more attention from farmers in the past few years, the fashion industry has also started taking notice of the practice, and it is receiving a positive reception.

"Sourcing from regenerative agricultural systems is the future for fashion," said Marco Bizzarri, president and CEO of Italian luxury brand Gucci, in an interview in November with *Women's Wear Daily*, the fashion industry trade journal sometimes called 'the bible of fashion'.

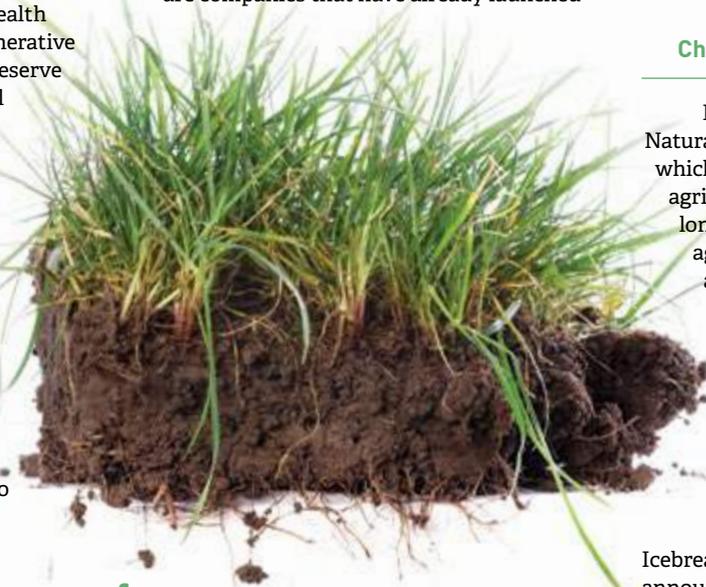
Meanwhile that other 'bible of fashion', for style conscious consumers, *Vogue*, in October stated: "Everyone's talking about regenerative agriculture. Brands large and small – from Allbirds and Patagonia to Maggie Marilyn and [last year's International

Woolmark Prize winner] Richard Malone – are ... peppering words like 'soil health' and 'carbon sequestration' into fashion week chats."

The *Vogue* article continues: "Maybe fashion is rallying around regenerative ag, as it's come to be known because it's so different from the other sustainability trends and buzzwords we've encountered. It has virtually no downsides or compromises, and it isn't just 'less bad' than conventional farming. It's categorically good, and it's good for every living thing involved: the farmers, the plants, the animals, the soil, the micro-organisms in the soil, and, eventually, the consumer."

**"Regenerative agriculture harbors considerable promise for the future."
LVMH Group**

Is regenerative agriculture just a shiny new buzzword in the fashion industry's sustainability conversation or are brands taking action? It is a bit early to know for sure – remember, even a brand's regular product development and manufacture usually takes more than 12 months before it is delivered to retailers. However, there are companies that have already launched



products sourced from properties on which regenerative agriculture is practiced – and those products are being marketed as such.

These companies include large brands such as outdoor apparel brand The North Face, which has a 'Cali Wool Collection' made using wool that it says is "produced through regenerative agriculture methods", and US womenswear brand Eileen Fisher which uses wool from farmers that it says "regenerate depleted grasslands through holistic farming methods".

UK brand Burberry has created a 'Regeneration Fund' to implement regenerative agriculture practices with Australian woolgrowers within its own supply chain. According to Burberry, the project works at farm level to improve carbon capture in soils, improve watershed and soil health, reduce dryland salinity and promote biodiverse habitats.

Global Luxury group Kering, which owns brands including Gucci and Saint Laurent, is collaborating with The Savory Institute's Land to Market™ program to advocate verified regenerative sourcing solutions and expand the regenerative agriculture framework in fashion's global supply chains.

Furthermore, Kering and Conservation International have created a €5 million (AU\$7.9 million) Regenerative Fund for Nature which over the next five years will support promising and innovative regenerative agriculture projects across the world. As the fund grows, it will provide proof of concept for further investments in regenerative agriculture. Australian woolgrowers are eligible to apply; applications will be accepted annually, between 28 January and 30 April – see www.conservation.org/projects/regenerative-fund-for-nature for details.

**"Regenerative agriculture is a multi-benefit solution which supports Kering's sustainability ambitions to mitigate our environmental impacts and deliver positive outcomes along our supply chain."
Marie-Claire Daveu,
Chief Sustainability Officer, Kering**

In January, Gucci presented its new Natural Climate Solutions Portfolio in which it says it will "champion regenerative agriculture". As the first step in a broader, long-term strategy for regenerative agriculture, Gucci said it is identifying and scaling up regenerative agriculture projects within its sourcing regions, with the aim to source regenerative raw materials (including wool) for its collections. Going beyond its own supply chain, Gucci is also incentivising farmers to switch to regenerative agriculture through 'carbon farming'.

Last month, global brands Icebreaker, Allbirds and Smartwool announced a partnership with The New Zealand Merino Company on a new regenerative wool supply platform, ZQRX, which aims to help woolgrowers to better understand their environmental footprint and move to regenerative agriculture practices.

It appears that one of the major reasons why brands are attracted to regenerative agriculture is so that they can reduce the carbon footprint of their supply chain through carbon sequestration (to combat climate change). The 2020 Fashion Transparency Index reports that 16% of brands already publish annual carbon emissions produced within their supply chains, however it anticipates that there will be more disclosure on brands' efforts to reduce carbon emissions this year as more brands join the Fashion Pact and the UN Fashion Industry Charter. **B**

PHOTO: MediaProduction



Technology to trace Aussie wool to final product

From sheep to shop: AWI and Everledger are developing a system to trace the source and journey of Australian wool through to the end products. PHOTO (right): Nastasic

AWI and pioneering technology company Everledger are collaborating on a pilot project to track selected Australian wools as they move along the supply chain from farm through to finished product, which ultimately will enable retailers and end consumers to easily check that the product is made from world-renowned Australian wool.

Australian 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 eco-footprint 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.

“Traceability and transparency are critical for safeguarding the global reputation of Australian wool.”

John Roberts, AWI COO

AWI has joined up with digital transparency company Everledger to build and host an Electronic Chain of Custody Tool (ECCT) on its platform (for proof of concept) that, using ‘blockchain technology’, aims to track and validate the exchange of ownership of selected wools as they move along the supply chain from farm through overseas processing to finished products.

Different participants at each stage of the supply chain will be able to connect through the Everledger platform. Recorded evidence can be used to demonstrate compliance, providing more confidence on the authenticity and provenance of the product. Ultimately, a retailer or end consumer will have access to information that allows them to evidence how the original wool was sourced and processed throughout its journey.

AWI Chief Operations Officer, John Roberts says an effective ECCT will enable Australian wool to differentiate itself clearly

and effectively from other wools and other fibres in the global market.

“AWI and our stakeholders have been monitoring the rapid escalation in emphasis being placed on provenance, corporate social responsibility, and the perennial concerns regarding supply chain efficiency and biosecurity,” John said.

“Traceability and transparency are critical for safeguarding the global reputation of Australian wool. This partnership with Everledger will help us 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. Ultimately, this is good news for our farmers and related small businesses that rely on Australia's remarkable sheep to make a living.

“The project findings from this pilot project will determine whether we will invest in a full platform or look to participate in an alternative.”

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

“We're delighted to design and manage a solution that will help AWI to deliver a more transparent value chain,” said Everledger CEO, Leanne Kemp. “By sharing provenance information securely – from farm to consumer – all participants can enjoy the benefits of traceability. AWI is taking a lead for other traditional industries in Australia to follow.” **B**



Hear more about the initiative in Episode 164 of AWI's The Yarn podcast at www.wool.com/podcast.

Wool set to gain from push towards a circular economy

With the global fashion and textile industry under pressure from consumers and regulators to reduce its waste and pollution, there is a push for the supply chain to change its method of production from a wasteful 'linear' model towards a sustainable 'circular' model. Wool has a unique set of 'circular' features – such as being a renewable and biodegradable fibre, and suitable for reuse and recycling – which should make the fibre more sought after by companies along the supply chain including brands and retailers.

When looking at many of the environmental issues that today's society is facing, it is becoming clear to many that the current 'linear' model of textile production has reached its limits and is no longer working for people nor the planet. This is why brands, manufacturers, regulators and NGOs see a solution in a different economic model – the 'circular' economy.

The circular economy is based on the principles of:

- using renewable resources
- designing out waste and pollution
- keeping products and materials in use for a long time; and
- regenerating natural systems.

Many brands and designers are asking themselves how they can shift into a circular business model and create circular products. The answer is wool.

In stark contrast to synthetic fibres, wool is by nature a circular fibre (see opposite). In the Material Circularity Indicator by the Ellen MacArthur Foundation, wool gets the highest score possible.

AWI supports the movement towards a more circular fashion industry to better compete with synthetics.

Through the company's marketing arm, The Woolmark Company, AWI is increasingly championing and educating brands and the supply chain about wool's innate circular attributes. It is vital that The Woolmark Company continues to provide the scientific evidence and a pathway for companies to incorporate wool into their products to lighten their eco-footprint and demonstrate an alignment to circularity.

Regulatory pressure in the EU

Aside from a self-initiated push by the global fashion and textile industry towards a circular economy and a slowing down of

fast fashion, there are growing regulatory pressures, especially in the European Union (EU) which is a key market for Australian wool, to force the industry to adopt the circular economy.

A comprehensive policy and legislative framework to achieve circularity in the textile industry is being developed through the EU's European Green Deal and its Circular Economy Action Plan. Addressing waste and pollution in the textile industry is a key goal of the EU's plans.

Adoption can be expected by EU member states within two years. Other jurisdictions may well follow.

The strategy aims to help the EU shift to an economy in which fashion and textile products are designed to be more long-lasting, reusable and recyclable, and encourage sustainable production. Furthermore, through the EU's Extended Producer Responsibility legislation, brands will soon be responsible for the *entire* life-cycle of their products (production *and* post-retail) including take-back, recycling and final disposal.

Brands must start designing for circularity.

The wool industry is unique in having a package of circular features that align and show excellent fit with the EU's European Green Deal principles.

AWI is engaged at an EU level, drawing on its extensive research in this space and working with the International Wool Textile Organisation (IWTO), to champion wool throughout the EU's policy and legislative development process. AWI is also engaging with its brand and supply chain partners to raise awareness of the regulatory issues and share the company's research and analysis. **B**



FIBRE PRODUCTION

Every year, sheep produce a new fleece, making wool a completely **renewable** fibre source. Wool is grown in the simple mix of sunshine, water, grass and fresh air. In contrast, synthetic fibres are derived from non-renewable petrochemicals and fossil fuels, which when extracted de-sequester carbon stored millions of years ago.



GARMENT USE PHASE

How often clothes are worn is the most influential factor in determining environmental impacts from clothing. Wool garments are on average **kept in use for longer periods** of time than garments made from other fibre types (and are very suitable for repair if needed).

In addition, consumers wash wool clothing less frequently than other fibre types, **saving water, energy and detergent** associated with laundering.

Wool's attributes are so highly valued that, even after a garment has finished its long service life with one person, the fibre is still suitable to be kept in use via three further ways:

1st life extension – **Reuse:** Wool is the most reused fibre on the planet of the major apparel fibres, with wool garments often preferentially donated for extended life.

2nd life extension – **'Closed loop' recycling:** This involves high-value wool garments deconstructed to enable new yarns to be spun and new high-value garments fabricated. Wool is the most recyclable fibre on the planet of the major apparel fibres.

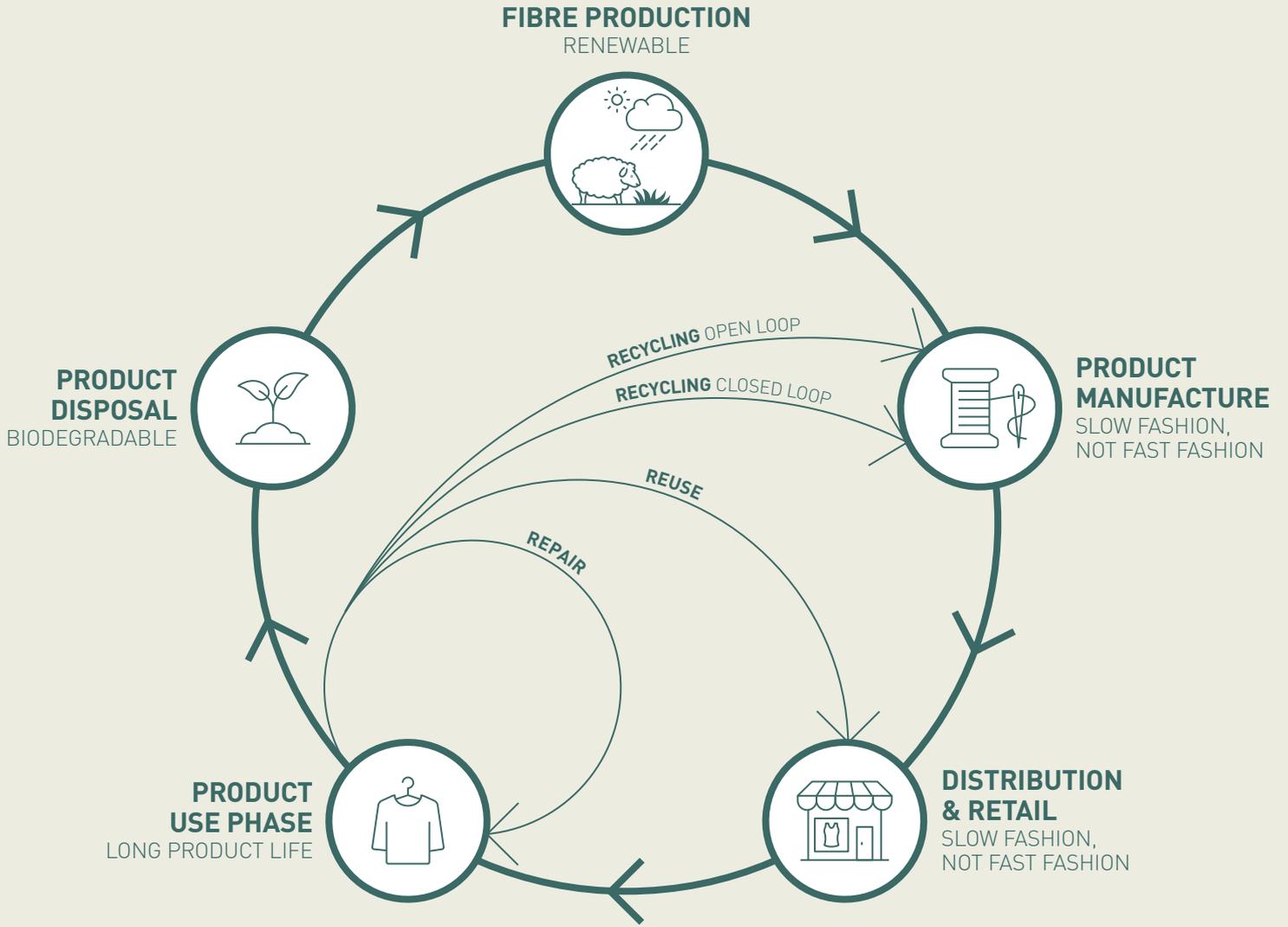
3rd life extension – **'Open loop' recycling:** This is essentially 'down cycling', in which wool products are pulled apart and fabricated into cheaper non-woven products for insulation, padding, interiors etc.



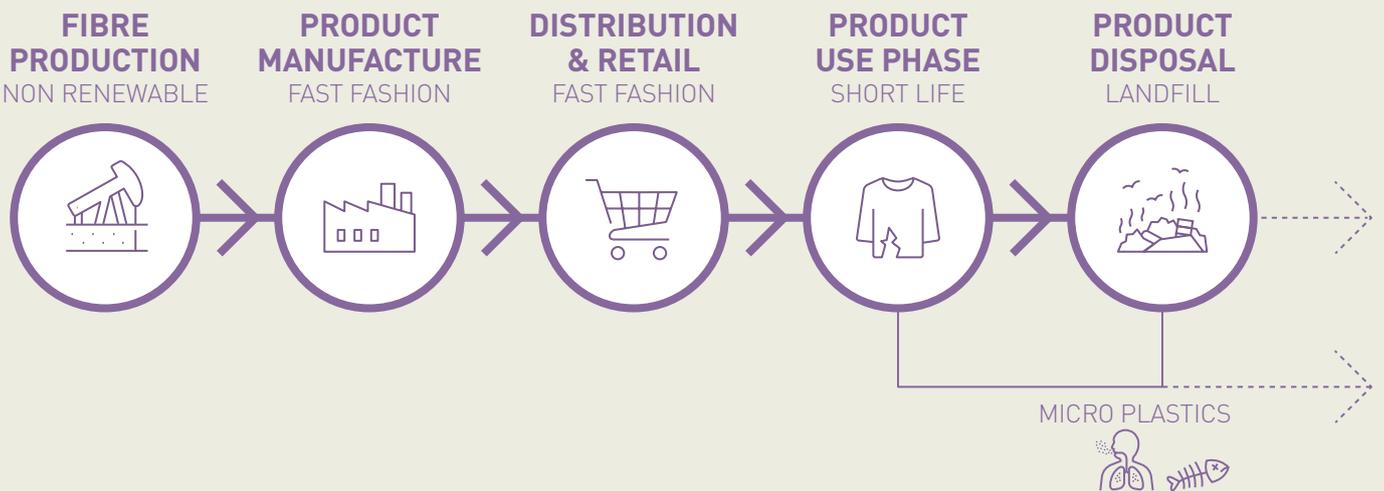
GARMENT DISPOSAL

Wool is made of a 100% natural **biodegradable** protein, similar to that found in human hair. When a wool product reaches its end-of-life and is disposed of, the wool fibre readily decomposes in soil, slowly releasing valuable nutrients and carbon back into the earth, acting like a fertiliser. In contrast, synthetic fibres do not biodegrade but instead accumulate in landfill and release microplastics.

Wool fits into a sustainable circular model of textile production that minimises waste and pollution



Synthetic fibres are more aligned with an unsustainable linear model of textile production with waste and pollution



Traceable wool from farm to fashion

United States-based menswear brand Wool&Prince and its womenswear sister-brand wool& now have a completely traceable Merino wool supply chain that champions the natural fibre's origin and heritage in Australia.

Apparel from **Wool&Prince** and **Wool&** made with Merino wool sourced from 'Ashmore' in South Australia.



"As a family-owned organisation, we take seriously the responsibility of preserving the environment for future generations and to leave the land and its natural resources in a better state in which they were acquired," said Keith McBride, Chairman of AJ & PA McBride Ltd.

"Our dedicated staff work hard to ensure that grazing techniques work in partnership with the natural environment. Every day they do simple things to improve their environmental sustainability, whether it be improving efficiency in energy usage, fencing off dams to increase biodiversity, introducing tree-planting programs for re-vegetation and animal welfare, or using different stocking strategies to improve soil health and groundcover.

"In the twenty-first century, sustainability increasingly relies on new technologies and scientific advances and AJ & PA McBride is committed to participating in research and collaborating with government agencies, research organisations and other industry bodies that address natural resource management issues and promote sustainable agriculture."

As well as being a profitable business and ensuring the long-term health of the land, key to the company's mission of ensuring it is a good corporate citizen also includes it being an employer of choice (by providing staff with quality conditions and facilities) and an active member of the community (by supporting local towns, community events, community service and agricultural education).

Wool&Prince was famously launched in 2013 when its founder, Mac Bishop, successfully wore his Merino wool shirt for 100 straight days without washing or ironing, proving the easy-care and versatile nature of the fibre. From a single shirt product, the brand's range has expanded massively, but high-quality Merino wool is still at its heart. In 2018, its womenswear sister-brand wool& was launched, again with Merino wool as the brand's foundation.

Pieces across the two brands' collections now feature Merino wool from AJ & PA McBride whose family have been woolgrowers in South Australia for six generations, and which celebrated its centenary last year – see opposite page.

The traceable Merino wool has been sourced from 'Ashmore', located close to Kingston SE on the state's south-east

coastline, which has an annual production of more than 800 Merino wool bales averaging 17.7 micron. Producing high quality Merino wool, the McBride family utilises innovative farming practices to manage their sheep and land. The farm is specifically focused on improving energy efficiencies, land conservation and biodiversity.

Sustainable wool-growing

AJ & PA McBride believes quality production is dependent on a healthy environment and the company's diverse activities are managed with the aim of minimal impact on the environment.

US brands **Wool&Prince** and **Wool&** now source their Merino wool from **AJ & PA McBride Ltd's** 'Ashmore' property in South Australia, where looking after the long-term health of the land is a priority.



Traceable supply chain

Wool&Prince and wool& have worked in partnership with The Woolmark Company to build a long-lasting relationship with the woolgrowers to develop the traceable supply chain. Embracing a 'less is more' approach to apparel design, Wool&Prince and wool& have made a commitment to educate the consumer about the origin and impact of every garment created.

"We are thrilled to partner with The Woolmark Company to set up a traceable supply chain that tracks our wool back to the source in Australia. As a brand, we have a responsibility to the land, the people, and the animals that are behind our clothing and it was time to take our customers on this journey," said Mac Bishop.

In a 12-month journey along the supply chain, Merino wool from 'Ashmore' is processed in China, transformed into garments in Korea, and then distributed via the United States to finally make its way to Wool&Prince and wool& customers across the world.

Wool&Prince's traceable collection includes a range of versatile Merino wool knit tops, polos and sweatshirts, while wool&'s collection includes a range of versatile dresses. Thanks to Merino wool's natural properties – including odour- and wrinkle-resistance – the garments can be washed less often, reducing their environmental impact. **B**

More information:

www.woolandprince.com
www.wooland.com

AJ & PA McBride Ltd's Keith McBride at 'Ashmore' in South Australia, with property manager Raymond Rowett.



AJ & PA McBride Ltd enters its second century

AJ & PA McBride are proud producers of Merino wool. The company is one of the top five wool producers in Australia, each year shearing more than 230,000 sheep and lambs, and producing more than one million kilograms of wool.

AJ & PA McBride Ltd was formed in July 1920 by Albert James McBride and his son Philip Albert Martin McBride, although the McBride family has been producing wool in Australia since 1859. Now beginning its second century of operations, all shares in AJ & PA McBride are still held by descendants of the founders and the board of the company now has a director in the fifth generation of the family.

"Although the company now has a variety of agricultural, horticultural and viticultural interests, AJ & PA McBride Ltd proudly remains a wool producer," Keith McBride said.

It now owns and operates five pastoral and four grazing properties in South Australia, as well as a mixed farming and grazing property on the border of South Australia and Victoria.

Ashmore Station

Ashmore was the company's first south eastern purchase, in 1936. The south east of South Australia is known for its rich soils and high rainfall, ideal for grazing operations. Ashmore consists of mainly flat country, well served by underground water capable of providing irrigated pastures.

The initial Ashmore block with its iconic natural stone woolshed was renowned for its production of high-quality wool at the time of purchase, and has increased in size with the purchase of the adjacent properties over the years.

Ashmore is a Summer/Autumn shearer with an annual production of about 150,000 kg of Merino wool. The property is managed by Raymond and Olivia Rowett.

While AJ & PA McBride Ltd produces medium wool of 20-21 micron (used in knitwear) on the pastoral northern districts of South Australia, the

company produces on its south eastern properties, including 'Ashmore', finer wool of 17-19 micron which is used in suits and next-to-skin wear.

Into its second century

As has been the case for the past one hundred years, the pillars of AJ & PA McBride are family, food and fibre.

"Despite the reduction in wool prices over the past two years, the McBride group remains committed to the fortunes of the fleece," Keith said.

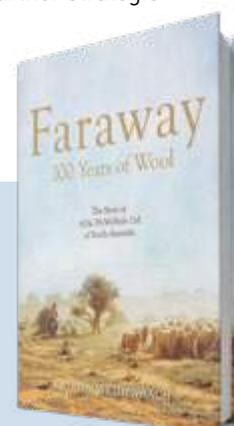
"The Merino is a genuine dual purpose animal, producing high quality wool as well as nutritious and flavoursome meat. The current high prices for protein complement a wool and dual purpose enterprise enormously.

"AJ & PA McBride Ltd has set itself a medium-term goal to produce 10,000 bales of wool per year, up from the current 6,500 bales in 2021. This will be achieved through genetic improvement as well as land productivity and further strategic acquisitions." **B**

More information:

www.mcbride.com.au

To celebrate AJ & PA McBride's Centenary Year, the company's rich history has been documented in a new book *Faraway – 100 Years of Wool*, written by Kristin Weidenbach, author of the bestseller *Mailman of the Birdsville Track: The Story of Tom Kruse*. The book details the family's pioneering pastoralists, politicians and philanthropists who have left their mark on the Australian wool industry. It also features an impressive catalogue of historical photographs. It is available for purchase (\$50 + \$10 postage) at www.mcbride.com.au.



The wool-rich garments are worn by the entire Luna Rossa sailing team during training as well as sailing.



The Luna Rossa AC75 yacht beating the American challenger in the semi-final of the Prada Cup.

Wool showcased during America's Cup race series

In a global showcase of Australian Merino wool, the America's Cup team Luna Rossa Prada Pirelli has benefited from the performance attributes of the fibre in its sailing uniform, thanks to a partnership with AWI's subsidiary The Woolmark Company. After an intense America's Cup race series culminating in the team winning the Prada Cup, they will this month race against the defending team in the world-famous America's Cup Match.

The America's Cup series of yachting races is a showcase for the most technologically advanced boats and the greatest sailors in the world. Now in its 36th edition, the America's Cup is the oldest trophy in the history of sport.

The Woolmark Company is the official technical partner of the Luna Rossa Prada Pirelli team, the most respected team in the America's Cup fraternity and the only one in the history of America's Cup to have challenged six times. As part of the America's Cup race series, the team last month spectacularly won the Prada Cup to become

the challenger in the 36th America's Cup Match, beginning later this month.

The partnership of The Woolmark Company with this legendary Italian team highlights the strong link between the world of sport and Australian Merino wool as a premium performance fibre. The partnership has achieved immense media coverage and is influencing global consumers to consider, and ultimately purchase, Australian Merino wool for activewear.

The Woolmark Company's commitment to championing innovation has seen the company support the Luna Rossa Prada Pirelli team in the research and development of a Merino wool-rich uniform for the entire team and crew during training and sailing. The Woolmark-certified uniform includes: waterproof jacket, soft shell jacket, polo shirt, T-shirt, wet jacket, blouson, wetsuit and base-layers.

"The America's Cup has always symbolised the best of the best – from the best boats, to the best crews and now the best fibre. It's the first time wool has taken to the seas on such a large scale and has allowed consumers and sailing fans across the world to see Australian wool used in a very innovative way," said AWI CEO Stuart McCullough.

"It has been an extraordinary achievement for the Luna Rossa crew, helped by the wool-rich uniforms, to make it through the America's Cup race series and win the right to challenge the defending champion.

"These uniforms herald the emergence of a new breed of natural performance

sailing wear. Merino wool has been proven in the toughest sailing conditions to have superior technical and environmental benefits compared to traditional synthetic sailing gear."

Wool is 100% natural, renewable, biodegradable and is the most reused and recycled apparel fibre on the planet. Moving away from uniforms made from synthetic fibres, the use of wool in the Luna Rossa Prada Pirelli team uniforms offers a natural solution with reduced environmental impact. The wool-rich uniforms have been tested and used by the best through this technical partnership.

Team director and skipper Max Sirena said: "Our physical activity is very demanding in terms of clothing: the garments we wear must be as isothermic, elastic, breathable and water resistant as possible. Well, I discovered on my own skin that Merino wool is all this. It really is a performance fibre, and besides that, it is also absolutely sustainable and biodegradable. I must say that our new uniforms are a wonderful surprise that makes our body – and our spirit – feel good!"

The 36th America's Cup

Despite two initial regattas in the America's Cup series having been cancelled last year due to the COVID-19 pandemic, the benefits of the partnership between The Woolmark Company and Luna Rossa Prada Pirelli are mainly associated with the most important series of races that have been successfully held in the past few months in Auckland in



As well the **America's Cup race series** being broadcast to fans across the world, crowds have also been able to watch events unfold at the competition venue in COVID-safe Auckland.



The Official Sailing Team Jacket (pictured) and other garments are available for purchase across the world.

Team uniforms available to purchase

Several items from the Luna Rossa Prada Pirelli official uniform are commercially available for purchase at selected Prada flagship stores across the world (including Westfield Sydney), on Prada.com and at the Luna Rossa store at the America's Cup Village in Auckland.

- **Sailing Team Jacket** – a three-layer garment that comprises 54% Australian Merino wool bonded with a waterproof membrane resistant to 11 water columns, for extreme water resistance and full breathability.
- **Short-sleeve Polo** – made of 100% Merino wool, it is comfortable next to the skin and machine washable. It's a perfect option for both summer and winter when in combination with jumpers and sweatshirts.
- **Technical T-shirt** – it includes 36% Merino wool: a must-have both in sportswear, thanks to its high breathability and resistance to odours and sweat, and for a casual wardrobe, suitable for any occasion.

"The launch of these products gives sailing and wool fans alike the chance to own a technical garment that has been truly tested by the best," said AWI CEO Stuart McCullough.

The Luna Rossa team in action: The **Woolmark logo** is displayed on the **sail of the yacht** and the right-hand **sleeve of the team's sailing uniform**; the logo has now been seen by millions of sailing fans across the world.

the lead up to the 36th America's Cup Match. The America's Cup Match will be held later this month and will see the Luna Rossa Prada Pirelli team challenge the reigning champion from New Zealand.

The successful control of the pandemic in New Zealand meant that the Prada America's Cup World Series (held in December) and the Prada Cup (held in January and February) were able to continue according to schedule in Auckland with minimal disruption – including spectators being allowed to gather in groups to view the event in-person, something which had been forbidden at nearly all major sporting events around the world during 2020. The America's Cup is also being broadcast globally to millions of fans across multiple platforms.

Following its participation in the Prada America's Cup World Series (held in December), the Luna Rossa Prada Pirelli team competed in the Prada Cup, the winner of which would challenge the 'Defending Club' Royal New Zealand Yacht Squadron and its team Emirates Team New Zealand in the 36th America's Cup Match.

In the Prada Cup, Luna Rossa Prada Pirelli beat American Magic (the American

sailing team representing the New York Yacht Club) 4-0 in the semi-final, followed by INEOS Team UK (the British sailing team, representing the British yacht club Royal Yacht Squadron) 7-1 in the final. By winning the Prada Cup, the Luna Rossa Prada Pirelli team will now challenge Emirates Team New Zealand in the 36th America's Cup Match. **B**

Global yacht industry grows

Rising popularity of coastal and marine tourism across the globe and increased participation of consumers in recreational boating activities and water-based sporting events is driving market growth in the yachting industry.

Amid the 2020 COVID-19 crisis, the global yacht industry market was estimated at AU\$83.9 billion and is projected to increase by 32% to AU\$110.82 billion by 2027.

Australian Merino in Lana Vello

Lana Vello founder Mikahla Wells in the brand's Australian Merino wool athleisurewear: versatile and stylish activewear that can also be used for casual, everyday use.



Mikahla Wells grew up on her family's farm in Wyalkatchem, a small farming community in the Central Wheatbelt of WA. After boarding school in Perth and a degree in Zoology at the University of Western Australia, Mikahla returned to Wyalkatchem for a couple of years before moving to York where her fiancé, Mitchell, farms alongside his father.

The Lana Vello athleisure brand was launched by Mikahla last year after about 18 months of research and development.

"I started Lana Vello as a way to have my own business that, by using Merino wool, connects my interests of health and fitness, farm life and regional Australia – three things that motivate me daily," Mikahla said.

"Our entire brand and all of its products are inspired by rural Australia and focus on the benefits of Australian Merino wool. The designs are inspired by the beautiful landscapes, flora and fauna found in this unique place in the world. This is our main selling point, as well as highlighting the incredible features of Australian Merino wool.

"I believe we stand out from our competitors also because we really do live and breathe farming and Australian Merino wool. We run a sheep and cropping farm in Western Australia and one day we hope to be able to use the wool from our own sheep to supply the garments for Lana Vello, allowing complete traceability."

Lana Vello is a new athleisurewear brand launched last year by Mikahla Wells from the Central Wheatbelt of Western Australia. The brand draws its inspiration from regional Australia and Australian Merino wool.

Versatile apparel

Mikahla says the brand's apparel meets the growing trend of consumers seeking garments that are suitable for both fitness and social settings.

"The garments are simple, comfortable and beautiful, can be dressed up or down, are flattering for all sizes, and can be mixed and matched so they are not limiting at all. They suit both hot and cool climates making them appropriate for all-day and year-round wear," she said.

The brand's initial range consists of basics: leggings, a tank top and T-shirt – all made with Australian Merino wool blended with the cellulosic fibre Tencel™ (made from wood pulp), with only minimal synthetic fibres to create stretch and compression.

"However, I am looking at diversifying into other product areas such as men's athleisurewear, kids' garments and even accessories in the future."

Retail and education

Lana Vello is mainly an online business, with product sold through its website (lanavello.com.au) and promoted

through its social media channels (Instagram and Facebook).

"We utilise our online and social media platforms to not only help sell our athleisurewear, but also to inspire and motivate people in regional areas to lead a healthy, active lifestyle and to educate our audience about the Australian wool industry and farming practices," Mikahla said.

"I have also found great value in face-to-face interaction, such as with customers at the Avon Valley Toyota Field Days. I have learnt that despite the price bracket of the garments, people appreciate the value of the product and being able to see and feel the garments themselves.

"I was delighted to win the Wheatbelt Business Network's Young Entrepreneur of the Year award in October last year, which helped give me belief in the business. However, I am most proud of the amazing feedback I am receiving from my customers, that they really love the product." **B**

More information:

www.lanavello.com.au



Lana Vello T-shirts and ankle socks.

New high-performance apparel moves up a gear

The new collection of cycling and running apparel from ashmei has cemented the UK brand's reputation as a producer of some of the world's best quality activewear – and ashmei has done so with the help of AWI and Australian Merino wool.

Activewear brand ashmei was founded in 2012 and from its very beginnings has always been known not only for its stylish designs but also for its innovative Merino wool fabrics that provide the ultimate technical performance.

The brand's new range for men and women includes short sleeve cycle jerseys, bib shorts, winter tights, long sleeve base-layers and T-shirts, arm warmers, neck gaiters and socks. The garments have been certified by AWI's subsidiary The Woolmark Company, providing assurance to customers that they have been rigorously tested for quality.

The new apparel is made from a Merino + Carbon fabric which enhances Merino wool's proficiency for regulating body temperature. The fabric technology is not a treatment; rather it uses active carbon particles embedded within the fibre to increase the capture and release of moisture vapour before it turns to sweat, doubling the drying speed of the Merino wool to keep the wearer especially comfortable.

The carbon particles are permanently embedded, meaning long-lasting performance. They also enhance Merino wool's natural odour resistance properties.

"For our apparel development, using the fibre combinations that offer the greatest performance benefits with the smallest environmental impact is key, and Merino wool provides this and more," said ashmei Managing Director, Elliot Welland.

"Partnering with Woolmark ensures our products achieve the highest performance and quality standards. As a brand that has believed in the benefits and innovations of wool and wool blends since its inception, we are delighted to see that the innovation of the last decade is making wool a mainstay for performance sportswear."

AWI CEO Stuart McCullough said he is delighted to see Merino wool play a major role in the development of ashmei cycling and running apparel.

"We have collaborated with ashmei on several initiatives during recent years and have always been impressed by the brand's commitment to quality and innovation," Stuart said.

"Utilising the natural benefits of Australian Merino wool, this new collection of Woolmark-certified products from ashmei are great examples of high-performance apparel that provide consumers with both comfort and style. The garments are beautifully made and are not only suitable for wearing during intense exercise, but also perfect for relaxing and socialising in after a bike ride or run, thereby meeting the growing consumer demand for versatile performance apparel." **B**

More information:
www.ashmei.com

Luxuriously soft to pull on, ashmei's new range of Woolmark-certified garments for men and women will keep you cool, dry and comfortable whatever the temperature – before, during and after exercise. Pictured is the **Women's Classic Merino Cycle Jersey** being put to the test by ashmei in the Italian Alps.



Hats off to our Australian wool!

Already well known for its use in the humble beanie, Australian wool is also being increasingly used in stylish and modern brimmed hats.

Helen Kaminski

Founded in Australia in 1983, Helen Kaminski has evolved into a leading global brand recognised for authenticity, design and craftsmanship in hats, handbags and a growing range of fashion accessories. The brand's distinctive and unique collection of designs – worn by celebrities and influencers world-wide – are distributed in 25 countries across five continents.

The finest Australian Merino wool is brought to the forefront of the brand in the winter months in iterations of felts and knits.

"We work with our partners to find a material that is comparable in softness and finesse to traditionally used fur, and one that can be developed to create the finest hats in the world – Pure Merino Wool was the obvious answer. And that's how our Ultra Fine Wool Felt hats were born," said Helen Kaminski's Head of Design, Pernille Sejer.

"My design team are proud to be working with this innovative material and the customers are responding so well to it in store that it's proving to become a true staple of our winter collections," says Pernille.

More information:

www.helenkaminski.com.au



Will & Bear

Will & Bear began four years ago whilst its founders, Alex Knorr and Lauren Williams, were travelling Australia in their vintage Kombi.

"With life on the road, we trawled op-shops, met incredible humans and fell in love with the landscapes we explored. Being inspired by nature whilst living on the road, Will & Bear was born," Lauren said.

Based in Melbourne, the brand stays true to its beginnings on the road by producing hats for adventure seekers, including a range of unisex wide-brimmed hats made from Australian wool.

"Our mission is to reduce our impact through thoughtful designs, give back to our planet and create a culture that cares for the environment, to inspire all to preserve it. We are committed to planting 10 trees for every hat sold, because we want to invest in a healthy environment for future generations.

"Our hats are made by our friends in Inner Mongolia using natural, biodegradable or recycled fibres. We are committed to producing high quality headwear that lasts."

More information:

www.willandbear.com



Epitome Hats

Launched in 2016, Epitome Hats is a small business based in Tasmania and run by a husband and wife team, Jaye and Holly Bowden. With Holly's grandmother a renowned milliner in Western Australia, hat making genes are in the family.

Australian Merino wool is also in the family's genes – Holly's parents own the fashion brand Smitten Merino – so Holly already knew the incredible quality of Merino wool and wanted her hats made from the fibre.

"Our Australian superfine Merino wool hats are not just a fashion statement. Breathable and with UV protection housed in the wool fibres means the hats give our customers' faces the best chance of protection in the most stylish way," Holly said.

"We use only the best quality superfine Merino wool to ensure our hats last and are able to endure the elements. The hats are incredibly versatile, being completely squashable for travelling, waterproof and timelessly elegant."

All the brand's hats, for men and women, are designed and hand finished in Tasmania. **B**

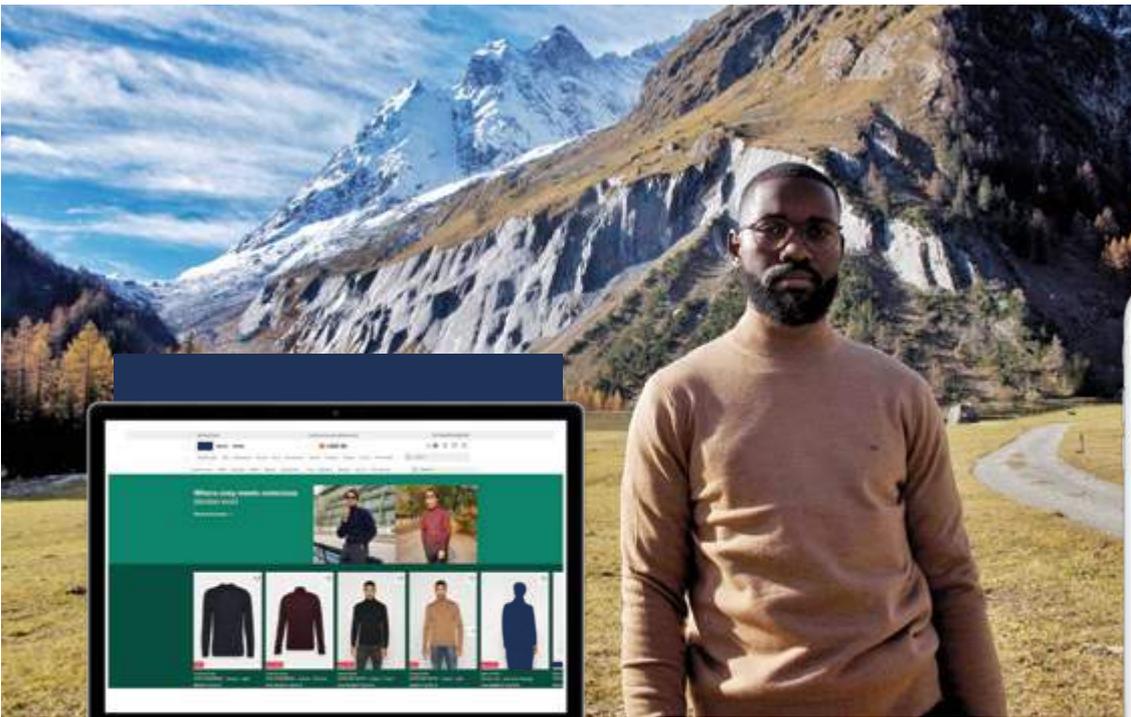
More information:

www.theepitome.com.au

A selection of brimmed hats made using Australian wool: (from the left) the Woolmark-certified 'Etta' from Helen Kaminski, the 'William Oak' from Will & Bear, and the 'Billie' from Epitome Hats.

European e-commerce campaign scales new heights

With more and more apparel purchases being made online, AWI's marketing arm The Woolmark Company has collaborated with Europe's largest online fashion retailer, Zalando, to showcase Merino wool to its customers and drive sales of Merino wool apparel products.



(Left) The campaign positioned Merino products as Mother Nature's finest. This image is one of the campaign ambassador's Instagram posts. (Below) The best performing Instagram post (which received 190,000 views) and (below left) the Merino landing page (which received 550,000 views) on the Zalando online store.



Zalando e-campaign proves popular

- 22 million total campaign views
- More than AU\$ 1 million worth of sales
- 167% return on influencer investment
- Return of €8.07 for each €1 spent on advertising

Founded in 2008 in Berlin, Zalando is Europe's leading online fashion platform, delivering to customers in 17 countries. In its fashion store, consumers can find a wide assortment of products from more than 3,000 brands. The online platform has 380 million monthly site visits and has 35.6 million active customers. Zalando has continued to achieve sustained growth during the COVID-19 pandemic with revenues jumping 21.6% to €1.84 billion (AU\$2.87 billion) in the third quarter of 2020.

AWI's marketing subsidiary The Woolmark Company partnered with Zalando

in a month-long campaign during the northern hemisphere autumn/winter to increase awareness of Merino wool's benefits and increase sales of Merino wool menswear and womenswear apparel.

Through the campaign, the eco-credentials and natural benefits of Merino wool were highlighted to conscious consumers looking to purchase sustainable apparel and build a timeless wardrobe.

The campaign was focussed on Germany, Switzerland, Austria, Belgium and France due to strong returns and engagement in those markets. There was solid performance across all these markets, especially Switzerland which had the highest conversion rate to sales for advertising spend.

Zalando engaged four noteworthy influencers (with a total following of 811,000+ followers on Instagram) to authentically communicate the message of Merino wool across their platforms and drive consideration to purchase wool apparel products.

The influencer content comprised 11 Instagram posts and stories which worked exceptionally well, receiving 1.6 million views by 774,000 unique users, with a strong engagement rate of 3.64% (the category

benchmark is 3.08%). The campaign achieved a return on influencer investment of 167% (which is above Zalando's benchmark of 100-120%).

The highly engaging influencer content from the campaign shoot was used on The Woolmark Company's own social media channels as well.

The campaign also involved a menswear and womenswear Merino landing page on the Zalando website which received more than half a million unique visitors. The landing page, which was translated for local language sites, was promoted through premium display adverts on desktop, mobile and app formats including on the Zalando homepage. The click through and engagement rates were above average.

The campaign generated sales of products valued at more than one million dollars (AU\$) with each order value 36% higher than the average order on Zalando. Overall, the campaign significantly overdelivered on awareness targets achieving more than 22 million total views.

The positive experience from the campaign will be used to plan and optimise future e-commerce campaigns and brand partner commercial strategies. **B**



Wool fabric being passed under the head of a digital printer at Think Positive in Sydney.

Digital printing transforms designing with wool

New technologies have enabled the digital printing of intricate and near-photographic designs on wool fabrics, thereby increasing design opportunities and markets for wool.

Digital fabric printing involves using inkjet technology to apply colour dyes simultaneously to a specially prepared fabric surface. In contrast to traditional print methods, digital printing is quick and personalised. The technique allows for printing on smaller lengths of fabric, lessening demand for water, chemicals and textile waste.

Designers are increasingly taking up the technology. For instance, the winner of the Karl Lagerfeld Award for Innovation at last year's 2020 International Woolmark Prize, BODE from the USA, used digital printing in her winning designs – see image above right. BODE utilised the support of pioneering digital printing company Think Positive which is a trade partner of the International Woolmark Prize.

Think Positive is an internationally renowned innovator in digital direct-to-fabric printing, with amazing expertise for printing on wool as a leading luxury fibre. The company was set up in Sydney 37 years ago and now also has a studio in London and print facilities in a refurbished mill in the historic textile town of Macclesfield in Cheshire, England.

Other designers in the International Woolmark Prize that the company has

worked with include Jacinta James from Australia, Daniel Fletcher from the UK and GmbH from Germany.

"Digital printing onto textiles is the biggest breakthrough in fabric decoration technology in the past 8,000 years," said Think Positive's director of business development, Emilie Cacace.

"Our fabric printers are like sophisticated larger versions of desk top ink-jet printers, but instead of printing onto paper, they can 'print' directly onto rolls of specially prepared fabrics.

"We can print on a large range of wool fabrics: woven and knits in varying weights, wool blends like wool denim, and even wool velvet and wool fur thanks to AWI helping us experiment and work with new and innovative qualities. The results are really exciting."

Think Positive has digitally printed on wool for world famous brands, such as Vivienne Westwood, and continues to receive enquiries and regular interest regarding printing on wool. The company has had its fabrics included in AWI's sourcing guide The Wool Lab.

"Think Positive is an example of how important it is for AWI to collaborate with industry," said AWI General Manager

Benefits of digital printing

- Shorter production lead times
- More flexibility in design
- No minimum order quantity
- Environmentally friendly dye
- Excess dye is recycled
- Less water



Digital printing by **Think Positive** on lightweight Italian wool twill in the new Spring/Summer 2021 collection of Melbourne-established and Hong Kong-based designer **Vincent Li**. "We did digital printing on wool for the first time," Vincent said. "We used a lot of wool in our collection. It is a sustainable fibre and suitable not only for winter, it is perfect for summer as well."

for Processing Innovation & Education Extension, Julie Davies. "Digital printing offers within the industry so much flexibility with multiple benefits such as fabric sampling options, lower minimums, shorter lead times, endless design and colour options, and most importantly amazing technical capabilities for heightened print quality resulting in dynamic products." **B**

More information:

www.woolmark.com/digital-printing
www.thinkpositiveprints.com



A digitally printed fabric sample at **Think Positive** in the UK of the design that was used by **BODE** in her collection at the 2020 International Woolmark Prize at which she won the Karl Lagerfeld Award for Innovation.

THINK POSITIVE
textile designers & digital printers

How digital printing technology works

Digital fabric printing is a series of processes whereby multiple water-soluble colour dyes are applied simultaneously to a specially prepared fabric surface. Instructed by a digital file embedded with colour management, customised inkjet heads travel back and forth across the fabric to distribute the dye in varying concentrations.



Step 1 - Fabric preparation

The ink used is a water soluble, modern textile dye. To stop the dyes from running and causing a blurring smudge, the fabric is first coated with a mixture of seaweed thickener, urea, salt and citric acid (lemon juice).



Step 2 - Printing

Tiny little drops of dye, thinner than a hair, are sprinkled over the fabric from eight different colour heads as the carriage passes across the fabric. Eight base colours that mix together can produce more than a billion colour combinations.



Step 3 - Heat setting

At first, the dye sits on the top of the fabric, which is then passed over a heat plate so that it is touch dry.



Step 4 - Steaming

Steaming the fabric opens up the fibres and creates a waterway into and around the fibres so the dyes can travel from the surface of the fabric into the fibres, forming bonds and giving the fabric permanent colour, image and design.



Step 5 - Rinse coating

Next, having done its job, the coating solution is washed out. The result is a decorated fabric that retains its original feel and texture that can be made into garments, curtains, upholstery, scarves or, cushions – the possibilities are endless.

Wool fabric and yarn sourcing guide goes digital

The Woolmark Company has launched the first edition of The Wool Lab Digital, a brand-new online platform for its respected wool fabric and yarn sourcing guide, which has been developed in response to the changing needs of today's market environment.

First launched ten years ago, The Wool Lab is a guide to the best commercially available wool fabrics and yarns, created in collaboration with the most innovative and quality-oriented spinners, knitters and weavers from across the world. It has successfully become an important tool for the global fashion and textile industry, with its aim to increase the global demand and use of wool.

However, market changes imposed by the global pandemic – such as the cancellation of trade shows, widespread lockdowns and greatly reduced face to face meetings – meant that The Woolmark Company had to quickly adjust and find new ways to connect and strengthen global supply chain partnerships which is imperative within our industry.

As the solution, The Wool Lab Digital, launched in February, provides a new digital showcase for wool fabric and yarn suppliers and a leading sourcing service for designers and buyers. While the structure and functionality of The Wool Lab has been adapted digitally to the times we are living in, the core of The Wool Lab remains the same.

The Wool Lab Digital is freely accessible to fashion and textile industry professionals in a dedicated area of www.woolmark.com. By simply registering,

users will be able to look through the guide and choose a selection of wool fabrics and yarns in which they are interested for their upcoming collections. Users will immediately receive an email with the details of their chosen swatches along with the contact information of the applicable manufacturers that the user can contact to request samples.

As well as being in a new online format, The Wool Lab Digital has identified the new market trends and product innovations that are most relevant to the current unique global situation. Through these macro-trends, Merino wool reaffirms its position as the ultimate ingredient for both urban and active wear, but also for leisure wear. **B**

More information:
www.woolmark.com/thewoollab

Wool4School tops 100,000 students

Wool4School is an annual student competition that offers a complete fashion design experience in the classroom, introducing a new generation of students to the versatility of Australian wool.

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

First launched by AWI in 2012, Wool4School is an annual competition that has involved more than 100,000 students, not only learning the fundamentals of fashion design but also exploring the benefits and versatility of wool and the fabric it creates.

"The aim of the Wool4School design competition is to teach school-aged students the benefits of Australian wool so that these future designers and consumers understand wool's benefits and are more likely to use Australian wool as their fibre of choice," said Wool4School Project Manager Ashley Hollis.

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

Wool4School provides teachers with a range of education resources and is the perfect program for online learning.

"Participating in this competition allowed me to grow personally, to broaden my knowledge and to put into practice all the notions learned at school."
Giorgia Cattunar, 2019/20 Italy winner

There is also a teachers' award for the best implementation of the competition in the classroom; the winner of last year's teachers' award in Australia, Jill Pettifer of Dickson College in the ACT, says the competition is a wonderful opportunity for the students to participate in an innovative real design scenario.

"The four parts of the competition allow the students to work through the various processes: creating a mood board, a design, then justifying their design through their creative statement and finally producing technical drawings. These are all diverse skills and to implement them in a design competition is such a great process for the students," Jill said. **B**



Enter the 2021 Wool4School Australia competition

Registrations are now open for the Australian edition of the 2021 Wool4School competition.

This year's theme is 'wool on the go' with students asked to **design an outfit ideal for commuting**. Wool should make up at least 70% of the outfit's share, comprised of up to 4 pieces. There are once again a host of amazing prizes on offer.

How to get involved

WOOLGROWERS AND PARENTS

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

YEAR 7-12 TEACHERS

Simply register your class at www.wool4school.com to access free online resources for the classroom.

YEAR 7-12 STUDENTS

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

KEY DATES

Submissions close: 22 July 2021
Announcement of winners: 19 August 2021

The winning designs of **Keren Sondi** (right) and **Giorgia Cattunar** (top) from last year's competition in the UK and Italy respectively were manufactured into real-life garments. Students had been asked to design an outfit that incorporated technology to improve its performance or functionality. For further details and images, head to www.wool4school.com

"I loved every part of the competition as each stage from thinking of a design, developing the idea and putting it all together each presented a different challenge."
Keren Sondi, 2019/20 UK winner



Wool denim designs for on the go

Fashion students from two Australian design schools were last year challenged by The Woolmark Company to use wool denim fabric to create a design for commuting.

The Woolmark Company last year helped fashion students from the Whitehouse Institute of Design (Sydney and Melbourne) and the Box Hill Institute (Melbourne) to complete the 'industry' component of their course – by undertaking a project using wool denim.

Traditionally made entirely from cotton, denim is one of the world's most popular fabrics. Wool denim is a wool/cotton blend which uses the same warp yarn as traditional denim, but replaces

some, or all, of the weft yarns with machine-washable wool. The wool denim fabrics are finished the same as traditional denim so style isn't compromised, yet you gain all the natural benefits associated with wool, such as warmth, moisture management and odour resistance.

With many people reassessing the way they travel across their towns and cities, the fashion students were asked to design a commuter-focused garment or accessory product using wool denim

fabric. Alternatively, the students could create a marketing campaign for a wool denim commuter collection of a real or hypothetical brand. See the winning designs and marketing campaign plans below.

Students were required to complete The Woolmark Company's Wool Appreciation Course and after the project they were encouraged to continue their wool education through the online Woolmark Learning Centre. **B**

Commuter pack essentials

PRODUCT DESIGN WINNER: RUBY SCOTT, BOX HILL INSTITUTE

Ruby's design enables ease of movement when commuting, whether it be train, bike or on foot. The product is a three-piece accessory ensemble. The utility bag has a space for essentials such as keys, mobile, earphones, pens, a small wallet and glasses. The glove has a card slot on the back suitable for a travel pass, swipe card or credit card. The face mask is the new essential.



Ruby Scott

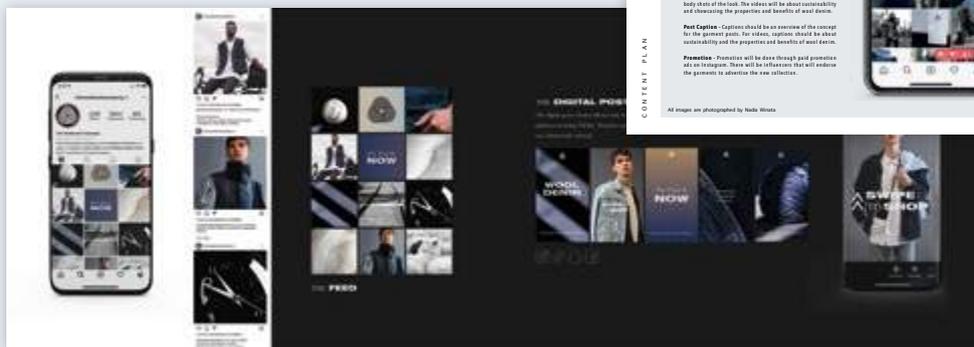
Theja Siriwardena



Bike to work chic skirt

PRODUCT DESIGN RUNNER UP: THEJA SIRIWARDENA, BOX HILL INSTITUTE

Inspired by 'skorts' (a skirt with integral shorts hidden underneath), Theja's product is a one-piece garment. The wool denim skirt has a diagonal zip on the front that can be opened to provide space for leg movements when cycling, but closed when at work for a more appropriate workplace look. Wool spandex shorts are attached to the inner waist band of the skirt.



Annie Jeffreys

The commute

MARKETING PROJECT WINNER: ANNIE JEFFREYS, WHITEHOUSE INSTITUTE OF DESIGN

Annie's 'The Commute' campaign, with the tagline 'The time in NOW', looks at creating a visual commute from farm to fashion with wool denim as the main character. Wool denim garments of various brands would be promoted via social media and the Woolmark website in the form of an editorial, with a simple click taking users directly to the featured brand's website for purchase.

COMMUNICATION CHANNELS : INSTAGRAM

Instagram
 Age: 18-30 years old
 Gender: Male
 Location: On The Street
 Hashtags: #Woolmark #Apparel & Clothing #Fashionista #OOTD

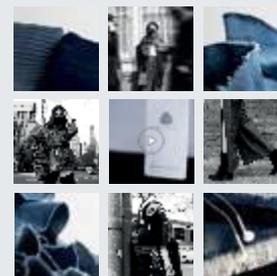
Blog - Posts will be made three times a week for one week before the campaign is launched.

Press releases - Posts will be about the fashion collection. The images will consist of several shots of garments and also full body shots of the models. The videos will be about sustainability and showcasing the properties and benefits of wool denim.

Post Captions - Captions should be an overview of the concept for the garment piece. The videos, captions should be about sustainability and the properties and benefits of wool denim.

Promotional - Promotional will be done through paid promotions and retargeting. There will be influencers that will endorse the garments to advertise the new collection.

All images are photographed by Nadia Winata



Nadia Winata

Paused motion

MARKETING PROJECT RUNNER UP: NADIA WINATA, WHITEHOUSE INSTITUTE OF DESIGN

Nadia's 'Paused Motion' campaign, with the tagline 'The next wave of urban commuters' aims to spread awareness about sustainability and the properties and benefits of wool denim. Utilising social media, the final product of the campaign would be an online editorial portraying a particular brand's wool denim commuter collection, driving purchases from their website.

Eve (right) with her sister **Clara** who is wearing the coat that Eve made with wool from her own Two Pines **Perendale** flock.

I made a coat using my own wool

Sue with **Elizabeth** and **Margaret** in the paddock (Eve knows all her Perendale sheep by name).

For her Year 12 Product Design and Technology project, Eve Girdwood of Ardmona in central Victoria arranged the processing of wool from her own Perendale flock into fabric which she then used to create a wonderful wool coat.



With farming history on both sides of her family, Eve Girdwood at the age of 12 decided she wanted a sheep stud. As Eve was to be in charge of looking after the sheep, she chose the dual purpose Perendale breed due to it being easy to care for and a practical size for handling – plus Eve thought they are the best-looking sheep!

Eve started out with three ewes bought from the Pergunyah Perendale Stud near Mansfield owned by Maureen Nissen, who has mentored Eve as she built up her stud from scratch. Six years later and Eve now has about 60 Perendales at her Two Pines Perendale Stud and has won best ram at the Dookie Agricultural Show and reserve supreme champion of the Strong Wool Sheep and Wool Show at Benalla.

From fibre to fabric

For her Product Design and Technology portfolio in year 12 at Notre Dame College in Shepparton, Eve chose to produce a coat made using the wool from her own sheep.

“I’m very interested in sustainability and the production of garments, so I decided to do a project in which I could demonstrate the full traceability of a garment right back to the source of the fibre,” Eve said.

The project was focused on the processing and production process rather

than the end design. It proved to be a steep learning curve in many ways for Eve, especially finding companies that would take Eve’s relatively small quantity of wool through all the different stages of production. Eve had two bales (178kg) of Perendale wool to process.

“Wool goes through a lot of processing stages before it becomes fabric: including scouring, combing, gilling, carding, spinning, weaving, dyeing... it was a big challenge to get the project off its feet at the start,” Eve said.

“However, Trish Esson from Cashmere Connections at Bacchus Marsh provided me with some great advice regarding finding companies to undertake the processing: rather than working forward through the supply chain by first finding a scourer, she told me it is easier to find connections by working back through the supply chain from the end product.”

For Eve’s project, EP Robinson at Geelong did the scouring, Cashmere Connections did the combing, gilling and carding, Wangaratta Woollen Mills did the spinning, and Geelong Textiles wove and dyed the fabric. Eve herself made the coat.

“The fabric is gorgeous and drapes really well. I’m very appreciative to everyone involved who has helped me along the way. It goes to show how stronger

wools can be used to make beautiful and expensive looking apparel,” Eve said.

Project completion

During the project, the coronavirus hit Victoria which made the assignment even more challenging.

The project took a full year to complete and resulted in, as well as the coat, an A3-sized 83-page folio. It comprised features including mood boards, design options, aesthetics, colours, materials, technologies, manufacturing machinery (including health and safety), production plan and journal, sustainability issues, and legal responsibilities including copyright.

The longtime farmers in Eve’s family were similarly interested to hear about all the stages of processing that Eve’s wool went through after it left the farm.

“The project was about the journey all the way from my own sheep’s wool to the finished garment. People love the provenance of it,” Eve said.

“We produced 80 metres of fabric and used four metres to make the coat, so I now have plenty of fabric left to use on other projects!” **B**

More information:

Follow @twopinesperendales on Instagram.



Australian Wool
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AWI WORKING TO SUPPORT THE FUTURE OF AUSTRALIAN WOOL-GROWING





Lifetime Ewe Management

LTEM deliverer **Geoff Duddy** with group members **Ross Brown** (Meandarra), **Phillip Coggan** (Westmar), **Murray Lillecrapp** (Toobeah, since replaced by **Stephen Brown**), **Dugald Cameron** (Bollon), **John Allen** (Toobeah), **Di Parsons** (St George) and **Will Rae** (Toobeah).

After a forced hiatus in Queensland due to drought, declining sheep numbers and the impact of wild dogs, interest in AWI's flagship producer extension program Lifetime Ewe Management (LTEM) is growing within the state.

A new seven-member LTEM group has recently started in south-western Queensland. The producers collectively manage more than 65,000 hectares, have an average stocking rate of one breeding ewe per six hectares and predominantly run self-replacing Merino operations with culls/CFA joined to Terminals.

Many of the members have undertaken exclusion fencing to reduce wild dog impacts, with most experiencing major losses prior to doing so. All members are looking to increase breeding ewe numbers.

Di Parsons instigated the development of the group. Di and husband Andrew

relocated from Forbes, NSW, at the beginning of 2019. While they are currently focused on developing/fencing their property, they are keen to ensure they 'get the basics right'.

Taking on the role as group coordinator for the LTEM project, Di said they are looking forward to the AWI-supported project helping them to improve ewe management, increase weaning rates, efficiently utilise their pastures for quality and nutrition, improve feed budgeting and be part of a like-minded self-mentoring group of farmers. The course also revisits the basics of ewe management and ensures that they are not dropping the ball.

"LTEM is a great way to meet other farmers who are also keen to mentor and learn from each other and have similar interests. All our friends that have done the course are really happy with the outcomes," she said.

Di is really enjoying the group dynamics and accountability at each group meeting. The tools and skills she has learnt from the program are being readily implemented into their livestock management program. She also highly values the many tips and local knowledge she has been given by other group members which have helped them adapt quickly to their new farm.

Group member Ross Brown of 'Belmont Park' runs a mixed-farming operation with wife Cheryl. They are looking to significantly increase their sheep flock after a string of poor seasons and wild dog issues.

"We have invested heavily in improving our infrastructure in the past few years. This has included exclusion fencing of our properties, building a new multi-purpose shearing/machinery shed and a new set of working yards with shade across the entire working race area," Ross said.

"We are looking to run a minimal management, more 'bang for your buck' operation that produces wool and sheepmeat ethically, efficiently and economically. LTEM is the perfect fit for our operation and I particularly enjoy the group dynamics and discussions during each bi-monthly workshop session.

What is Lifetime Ewe Management?

The Lifetime Ewe Management (LTEM) course, supported by AWI across Australia, 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 in the annual sheep calendar during a period of 12 months. The course is very hands-on, being based in the sheep yards, shearing sheds and paddocks of participating woolgrowers, which enables participants to share and learn from one another.

More information:

For more information, or to set up or join an LTEM group in your local area, call RIST on freecall **1800 883 343** or visit www.rist.edu.au/lifetime-ewe-management
AWI: www.wool.com/LTEM

"The importance of actively condition scoring throughout the breeding ewe's production cycle and how to meet her feed needs from existing pasture and/or supplements has been well explained and easy to implement."

The LTEM group's deliverer, consultant Geoff Duddy of Sheep Solutions, believes there is capacity for at least eight to 10 LTEM producer groups, stretching from Longreach to the southern border.

"I've been looking to establish several Queensland groups since moving from southern NSW to Queensland a few years ago and now that most of the state has finally got a break from the drought, with exclusion fencing and interest in the sheep industry booming, it is an opportune time for producers to fine-tune their management through programs such as Lifetime Ewe Management," Geoff said.

Much of the LTEM program is geared towards breeding up the Merino ewe base, and Mr Duddy believes Queensland has "a huge potential, particularly now".

"Over time there has been a swing away from sheep in Queensland due to dogs and drought, so we've seen a dwindling flock number as well," he said.

"However, while much of the LTEM recommendations originated from southern trial and extension work, most LTEM principles and management recommendations can be implemented in western or pastoral areas.

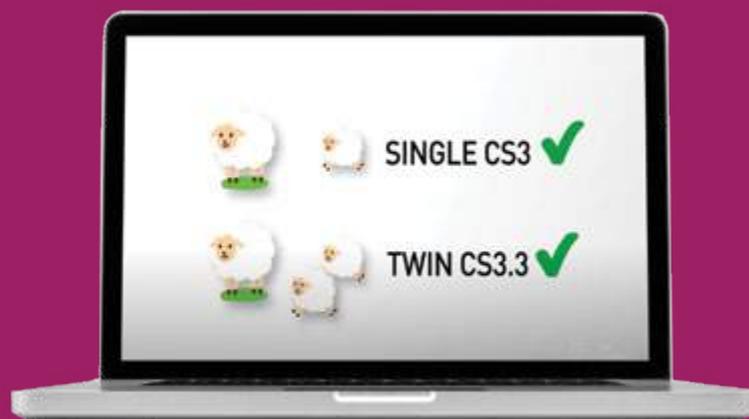
"Of the 18 LTEM groups I've coordinated, several were within south western NSW's pastoral zone, and I've also been part of an AWI working group further developing and fine-tuning principles for these regions. I'm keen to incorporate recommendations and practices that suit Queensland conditions and management calendars."

High on the list of management practices that Mr Duddy would like to see further develop within Queensland is the strategic supplementary feeding of ewes and, if proving to be cost beneficial, grain-finishing stock.

"Most producers I've come across in Queensland would first and foremost in a drought drop back on their numbers or they may destock completely – very few have actually fed. However, many are now seeing the benefit of feeding to help maintain their core breeding ewe base, improving reproduction rates, lamb survival and ewe and lamb productivity, with most producers investing in on-farm storage and machinery to help them do so.

"LTEM not only helps with day-to-day sheep management decision making but helps producers to understand what drives productivity – nutrition!"

"I love delivering LTEM. I love the interaction between participants and seeing their development. It is by far one of the best extension models available to sheep producers nationally today." **B**



AWI Change Makers: Ewe condition scoring

AWI recently issued a short video about ewe conditions scoring, as the fourth episode in its AWI Change Makers initiative.

Condition score can tell you so much about your sheep and their performance, and is simply done by hand, measuring the fat and muscle cover over and around the short ribs. Watch the 4½ minute video of livestock consultant Nathan Scott as he outlines the benefits of recording and managing ewe condition scores to target, practical management tips and expected productivity gains.

The AWI Change Makers initiative communicates research findings to woolgrowers to help them implement best practice in their flocks. Other episodes include:

- Lambing mob size
- Weaning to manage
- Ram performance management
- Joining time and length.

View the videos at www.wool.com/awichangemakers



Group member **Ross Brown** (left) outlining their family-run operation to other members during a condition scoring training session on **Belmont Park**.



After five years of self-funded research to improve the quality of trough water, Chris Grieger has developed a trough pumping system which he says gives producers cleaner, cooler and more palatable water for their livestock.

The **Croc Trough Pumping System** is a solar pumping system that is added to livestock water troughs.

New innovation causing a wave in farm water troughs

“While livestock producers are very aware of the importance of feed and nutrition to maximise their animals’ health and production, the value of providing optimal water health for the animals is sometimes overlooked,” said the owner, designer and developer of the Croc Trough Pumping System, Chris Grieger, who has 25 years’ experience in the agricultural industry.

“However, making water more palatable for livestock has been shown to increase water consumption, which in turn is linked to increased feed conversion which is the key factor in improved weight gains and growth, as well as healthier livestock.

“This is why I developed Croc Trough Pumping System, which is the only product on the market dedicated to helping improve livestock trough water quality.”

The Croc TPS is a solar pumping system that is added to livestock water troughs. You can use your existing trough, just place the pump in the water, ensure the solar panel is protected from animals, and let it do its job.

“It helps circulate, aerate, soften and cool the water. It inhibits algal growth and

separates biofilm, dust and debris, thereby providing livestock with access to more palatable water,” Chris said. “In trials we have seen significant improvement in livestock health and good weight gains. Given the low entry price, we expect producers to see immediate and significant returns on their investment. 200 lambs adding an extra 50 grams per day will pay for the product in 10 days alone.

“The Croc TPS enables producers to reduce the frequency of trough cleaning. It ensures clean water for your stock at a fraction of the time and effort; so it enables you to work smarter, not harder. There is less water wastage too.”

The Croc TPS is available in two sizes. The TPS50 is designed for large round troughs and rectangular troughs more than 2.5m long, while the TPS20 is for smaller volumed troughs or to use as an additional pump in larger troughs. Chris says it is simple to install and maintain – and can easily be relocated to other troughs.

Woolgrower John Sutherland of ‘Pooginook’ at Jerilderie in the Riverina NSW has used two of the trough pumps

and he says he has noticed benefits.

“The pumps ensure that dust doesn’t settle and the lambs have access to cleaner water, drinking as much as they need whenever they want. I have compared the same lambs on the troughs with pumps and without pumps, and the lambs on the pump systems are watering better overall. At Pooginook, good quality water is key to better weight gains in weaners,” John said.

“In the containment pens, trough cleaning has been reduced from cleaning daily to once every three days. Importantly the weaners no longer come to the water as you clean out the trough as they always did before this simple trough pump was installed. We are also now using this system as a mobile unit to follow weaners’ grazing rotation on the native country. It has been a game changer for us managing weaners on water especially during summer.” **B**

More information:

www.croctroughpumps.com.au

Chris Grieger 0407 487 118

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Shaping the future of animal health



Vaccine researchers striking back against flystrike

AWI is now two years into a major four-year preliminary research project to help develop a commercial vaccine that will protect sheep right across Australia from the Australian sheep blowfly. This \$2.5 million collaborative project has achieved much in its first two years. Here, CSIRO project leader Tony Vuocolo provides woolgrowers with an update on his particular area of research on the project.

CSIRO is on the front foot in developing and testing potential vaccines to fight off the formidable sheep industry adversary, *Lucilia cuprina*, the sheep blowie. The battle plans and tactics have been formulated and an array of prototype weapons, ie vaccines, have been designed, produced and tested during the past 18 months with more in the pipeline.

Each prototype vaccine and approach tested is helping inform the next iteration of flystrike vaccine development. The process is precise and methodical and in the past 18 months, 26 different formulations of vaccine have been tested in sheep as well as in a variety of laboratory tests.

Whilst a potential commercial vaccine is still a way down the track, CSIRO's results indicate they can produce high antibody levels in sheep against the blowfly. Antibodies are the defence molecules, akin to 'bullets' in general terms, produced by the sheep against the blowfly maggots. The major challenge faced is producing these 'bullets' in a form that will specifically hit the maggots in vulnerable spots and be powerful and plentiful enough to penetrate and ultimately over-run the maggots' armour-like protection.

The blowfly proteins, called antigens, used in the prototype vaccines to generate the immune response in sheep against the blowfly are being produced using several different production systems. These include:

1. isolation of proteins directly from blowfly larvae/maggots, also known as **native antigens**,
2. production of blowfly proteins in bacteria,
3. production of blowfly proteins in specially adapted insect cells.

In the last two cases the proteins are **artificially** produced and are called recombinant antigens.

Native blowfly antigens: good and bad news

It has been demonstrated that some native blowfly antigens used in the vaccine are effective in producing an immune response in sheep that results in stunting of maggot growth and in some cases the immune response of the sheep results in the death of the blowfly maggot when they feed on the sheep serum. Serum is the component of blood that contains the antibodies.

Unfortunately producing a commercial vaccine through this approach using native antigens is not viable and that is the motivation for production of the blowfly antigens in bacteria or insect cells, and more recently by chemical synthesis.

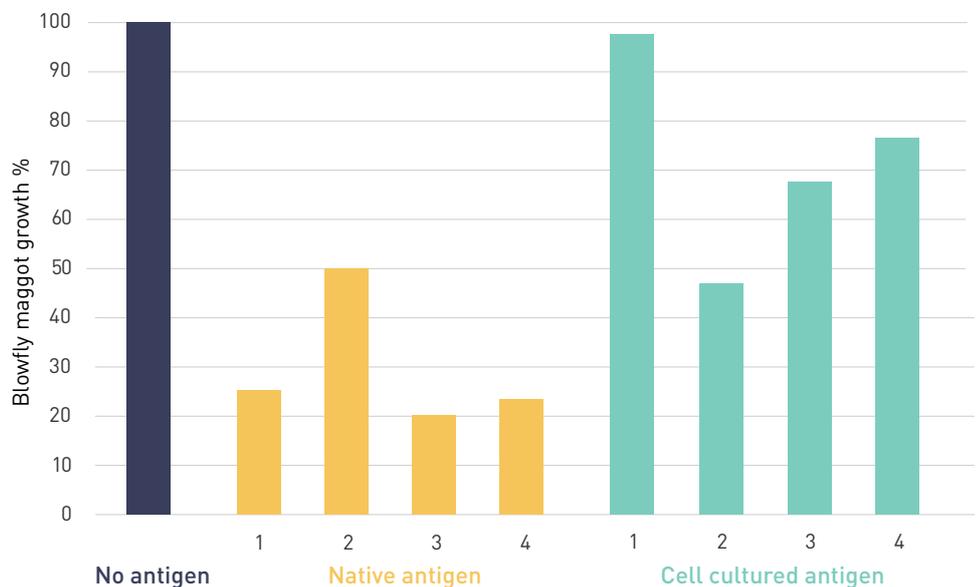


Figure 1. Graph showing maggot growth on sheep serum from sheep vaccinated with (1) no antigen, ie adjuvant only; (2) maggot derived native antigen; or (3) cell cultured antigen. No growth inhibition was shown for no antigen whilst the native antigens have performed the best so far.

Key points

- CSIRO researchers have identified key proteins in blowfly maggots that are important for their growth and development.
- The team has developed and tested prototype flystrike vaccines that help the sheep's immune system build a defence mechanism (antibodies) that will target and destroy these proteins.
- However, extracting natural larval protein from actual flies for the vaccine is prohibitively expensive commercially, so the team is continuing to look at ways to develop an alternative and cheaper way to synthesise them.

"CSIRO remains confident that if the right vaccine antigen production systems can be developed then an effective vaccine can be developed that strikes back at flystrike."

Work continues on artificial production of blowfly antigens

The difficulty of the artificial production of blowfly antigens is being able to produce antigens in a form that replicates the precise three-dimensional structure of the native blowfly antigens. This is more easily performed with proteins that have

simple structures but more difficult with complex proteins.

Several key classes of antigens being investigated have complex structures and additionally they are adorned with specialised sugar structures referred to as glycans. The glycans on the antigen are like a costume disguising the underlying protein. The sheep antibodies must be generated that can recognise this masterful disguise to be able to direct an effective attack against the blowfly maggot.

Antigens produced via these artificial approaches have had varying degrees of success in the vaccine trials undertaken. (See Figure 1 on opposite page.)

The CSIRO researchers are investigating ways in which to optimise these antigen production systems to help produce better and more efficient prototype vaccines.

Alternative approaches and related research

CSIRO will continue to progress flystrike vaccine development during the next 12 months by working closely with its scientific collaborators. In the absence of a sheep blowfly cell line to artificially produce the vaccine antigens, CSIRO researchers will use the next best resource and test and validate a newly established fly-related cell line to produce vaccine antigens. CSIRO is partnering with the University of Queensland Protein Expression Facility to undertake this work. It is envisaged that this will assist in producing flystrike vaccine antigens that better resemble the native blowfly proteins.

CSIRO will continue to work with the University of Melbourne (UoM) flystrike team cross-referencing vaccine antigens with sheep blowfly population genome studies that UoM has performed. This provides information about blowfly population genetics and how this might impact vaccine design and optimisation for different Australian regions where the blowfly is found.

A collaboration with Griffith University Glycomics Institute is providing a clearer insight into the sugar structures

found on the native blowfly proteins and is providing the opportunity to design and develop synthetic vaccines. These synthetic vaccines will be tested and if successful have the potential to bypass cell-based antigen production systems.

A study examining vaccine dose and the length of protection is nearing completion and is informing how CSIRO will formulate the future flystrike vaccine and how long the protective antibodies are maintained in the sheep. The ideal aim is to produce a vaccine that requires a single annual dose just before peak fly season.

Developing a pipeline for vaccine engineering and production is the key limiting factor if we are to be successful in the development of a flystrike vaccine. Overall, the next twelve months will produce a strong statement on whether the development of a flystrike vaccine will ultimately be achieved.

CSIRO remains confident that if the right vaccine antigen production systems can be developed then an effective vaccine can be produced that strikes back at flystrike. **B**



Flystrike prototype vaccines being formulated and injected into sheep by Flystrike Vaccine project leader **Tony Vuocolo**.



Flystrike vaccine research team members performing various research activities for the project: **Susan Briscoe** testing antibody titre responses of vaccinated sheep with the aid of a liquid handling robot. **Jody McNally, Duncan Elks, Brad Hine** and **Graham Acton** collecting blood from sheep vaccinated with prototype vaccines. **Neil Bagnall** processing blood samples and setting up bioassays for testing vaccine efficacy in laboratory-based tests.

Anaesthetics and analgesics deliver on-the-ground benefits

Woolgrowers Audrey Bird of Western Australia and Jodie Green of NSW believe whole-heartedly in the benefits of effective and practical anaesthetic and analgesic treatments during lamb marking.

Globally, Australian Merino woolgrowers are leaders in adopting anaesthetic and analgesic treatments for husbandry procedures. Tri-Solfen®, a local anaesthetic, was registered in 2007, while the non-steroidal anti-inflammatory drugs (NSAIDs) Metacam® and Buccalgescic® were registered in 2016 and 2017 respectively. Numnuts®, a handheld device that delivers a local anaesthetic (NumOcaine®) for ring castration and tail docking by rings, was launched in 2019.

On-farm adoption of these analgesic and anaesthetic options has been rapid.

For Jodie and Andrew Green at Boree Creek in the Riverina region of NSW, the incorporation of local anaesthetic into their lamb marking procedure, through the Numnuts device, is the next step in managing the health and wellbeing of offspring from their 6,500 ewe flock.

“Our operation is focused on breeding sheep that truly suit their environment; that is the most responsible thing to do,” Jodie explained. “Our sheep have soft, thin skin, they repel water and dust and thrive in the climate we expect them to live in.”

Although they have worked hard to develop sheep that thrive in their environment, they still need to undertake

surgical husbandry practices, such as marking and tail docking.

“We ceased mulesing during 2006, but only introduced an anaesthetic several years ago,” Jodie said. “We stopped using the hot iron about eight years ago and now use an elastrator for tails and testicles, with the addition of a local anaesthetic to minimise stress during and after the process.”

According to Jodie, the local anaesthetic delivered through the handheld Numnuts device provides sufficient relief to allow the marked lambs to mother up and become settled back in their paddocks by the time the impact of the analgesia wears off.

“Our ideal approach is to set up portable yards in the paddock and bring each mob to the yards so we can mark straight back into the paddock,” Jodie said.

Jodie believes the anaesthetic makes a difference both to the mothering up process immediately after marking, but also when returning the flock to its paddock.

“If you miss a lamb with the device at the end of a batch of anaesthetic, you notice the difference,” Jodie said. “The untreated lamb will come out of the cradle and sulk while the treated lambs land on the ground and head out to the ewes.”

Jodie describes moving the mob back to the paddock after marking to be as stress free as bringing them into the yards before marking.

While producers might be put off by the additional cost and time associated with providing an anaesthetic during marking, Jodie and Andrew have calculated the investment of 76c per ewe lamb and \$1.50 per ram lamb is more than worthwhile and indicated that using the device only increases the process of marking by about two seconds per animal.

Jodie Green with her sheep at Boree Creek in NSW.



Audrey Bird using Numnuts for marking her sheep at Wickepin in WA. PHOTOS: Numnuts

“You need to be committed to maximising animal welfare and focus less on the cost,” Jodie said. “It’s easy to maintain our commitment when our lambs mother up immediately and we see no check in lamb growth after marking, which is extraordinary.”

Animal welfare a no brainer

On the other side of the country, at Wickepin 2½ hours south-east of Perth, Audrey Bird is running a 1,700 head self-replacing Merino flock as part of a 4,300ha mixed farming operation.

Audrey has long been keen to minimise stress across her sheep husbandry activities, especially during mulesing and marking.

“Sheep are valuable and it is worth ensuring you do the best you can do,” Audrey said. “Anything you can do to minimise the animal set-backs is well worth pursuing.”

Audrey has been using Tri-Solfen for the mulesing operation since it was

first available and combines this with Buccalgesic and NumOcaine to optimise pain management and lamb recovery at marking. She believes the use of anaesthetics (like Tri-Solfen and NumOcaine) and analgesics (such as Buccalgesic) is a “no brainer”.

“I got to know about Buccalgesic through my niece, who is a vet,” Audrey said. “I tried that and thought it was relatively cheap for the benefits it gave our business. It is long acting and even after it’s worn off, the impact of lower stress during marking appears to have benefits for several days afterwards.”

Audrey also followed the development of the Numnuts system since it was first mooted and was one of the first producers in WA to use it, believing it has its own special niche.

“When the lambs come off the cradle without the anaesthetic, the wethers tend to be impacted,” Audrey conceded. “The NumOcaine acts immediately and we use the Numnuts system on the testicles and the tails of our prime lambs.”

The combination of both Tri-Solfen® or NumOcaine® with a meloxicam product provides the most effective pain relief and gives the lamb the best chance of recovering faster, addressing both the immediate pain and distress and any pain that might occur during the healing process, as well as reducing the possibility of infection.

As with Jodie’s experience, Audrey said the lambs mother up immediately out of the cradle and run out of the yards better.

“We have reduced the number of lambs sitting or lying down and squirming around by 90 per cent. If lambs can mother up and get a drink and walk behind the mothers back to the paddock it is a lot better for the lamb and a lot better for us.”

As far as mulesing goes, Audrey is in the process of phasing out this operation through a dedicated breeding objective. In the meantime, she makes sure operators disinfect their equipment between lambs and focus on animal welfare above throughput. Earmarking tools are also disinfected regularly and replaced every few years.

Communicating her expectations to livestock contractors is important to Audrey.

“We process 800–900 Merino lambs a day,” Audrey said. “But we pay per hour rather than per lamb and we supply an extra person as well as the contracting team to help things move smoothly and reduce the focus on throughput above animal welfare.”

It is the peace of mind that is important to Audrey when it comes to using anaesthetics and analgesics.

“It costs about \$2.30/hd for all three treatments, and with current sheep and lamb prices I believe it’s a good investment for our business,” Audrey said.

“Although the productivity gain is hard to calculate, we tick the animal welfare box and there could be more premium benefits, but we haven’t looked into it.

“As an industry, we need to look at consumer preferences when it comes to managing our animals — look at the benefits rather than the hurdles.” **B**

More information:

For further information and resources about using analgesia and anaesthesia when lamb marking, head to www.wool.com/aa. Also available on the page is a recording of a very popular 50-minute **AWI webinar** on lamb marking by respected veterinarian and sheep consultant Dr Tim Gole.

Lamb marking training guide

This training guide is designed to assist woolgrowers and their contractors perform best practice lamb marking and mulesing procedures with the utmost care and attention to ensure the best short- and long-term welfare outcomes for the animal.

Published in June 2020, the 80-page guide was developed by AWI in partnership with WoolProducers Australia and the Livestock Contractors Association.

It includes sections on:

- Overview of lamb marking
- Work health and safety
- Legislation and Codes of Practice
- Preparation and planning
- Lamb marking and mulesing equipment
- Chemical and animal health product use (disinfectants, insecticides and analgesia/ anaesthetics)
- Lamb marking and mulesing procedures
- References
- Chapters from the Australian Animal Welfare Standards and Guidelines for Sheep relating to responsibilities, tail docking, castration and mulesing.

More information:

Access the guide at www.wool.com/markings-guide



Summary of available anaesthetics and analgesics

	Action	Application	WHP	Mulesing	Tail docking with knife/hot knife	Castration with knife	Tail docking with rings	Castration with rings
TRI-SOLFEN®	Short acting local anaesthetic	Fan spray application to the wound (effective in less than 1 min)	90 days	✓	✓	✓	✗	✗
BUCCALGESIC®	Longer acting analgesic	Oral with custom applicator – gel applied inside the cheek (effective from 10 mins)	10 days	✓	✓	✓	✓	✓
METACAM 20®	Longer acting analgesic	Subcutaneous injection into muscle high on neck (effective from 10 mins)	11 days	✓	✓	✓	✓	✓
NUMOCAINE® (NUMNUTS® DELIVERY)	Short acting local anaesthetic	Injection with Numnuts® device (effective in less than 1 min)	0 days	✗	✗	✗	✓	✓

Growers must follow all label directions and veterinary instructions when using pain relief products. BUCCALGESIC®, METACAM 20®, NUMOCAINE® (NUMNUTS® DELIVERY) are Section 4 (S4) veterinary medications and require consultation with your local vet. TRI-SOLFEN® is available over the counter from your local reseller.

Flystrike webinar a practical and timely guide

Due to ongoing summer rains across many of Australia's sheep regions, woolgrowers have been experiencing a tough fly season. In response, AWI organised a popular webinar providing flystrike advice to woolgrowers managing under high-risk fly conditions. The webinar, held in January, was recorded and is freely available to view for all woolgrowers across the country.



If you missed AWI's **It's Fly Time!** webinar in January, you can watch a free recording on the AWI website at www.wool.com/flystrikeresources.

AWI ran the webinar, called 'It's Fly Time!', to deliver tactical information to woolgrowers in preparation for, and responding to, a high-risk flystrike period. It provided woolgrowers with tips for preventing flystrike, information on prioritising sheep for monitoring and treatment, and options for treating sheep when flystrike does occur. The webinar aggregated information on flystrike from a range of sources.

More than 450 people from across Australia registered to view the one-hour webinar which was presented on 29 January by respected veterinarian and sheep consultant, Dr Tim Gole. There was great interaction from the webinar attendees and feedback on the event was excellent. The webinar received a rating of 8.8/10 from viewers.

The webinar was recorded and is freely available to be viewed at any time on the AWI website at www.wool.com/flystrikeresources. When viewing, you can pause and go back to a previous part in the webinar if you want to recap a particular point. In addition, handy factsheets also provide links to further information. Woolgrowers without access to the website can be sent hard copies by contacting the AWI Helpline on 1800 070 099.

AWI's General Manager of Research Dr Jane Littlejohn says the webinar was very timely and important.

"Ongoing rains this summer made this the worst season for flies in many areas

in at least five years. The webinar provides a practical guide to flystrike prevention, monitoring and treatment, all which play key roles in flystrike management. Proactive management of flystrike is important for sheep welfare," she said.

"The flystrike prevention, monitoring and treatment activities highlighted in the webinar all play key roles in woolgrowers' integrated flystrike management plans."

Dr Jane Littlejohn, AWI's General Manager of Research

"While the digital format of a webinar is different to a regular face-to-face seminar, it is simple to use and we were able to reach a much wider audience. The key 'take home' messages in the webinar were clear and remain the same."

Key messages

It's important to have a broad flystrike management plan which incorporates (a) prevention, (b) monitoring and (c) treatment activities (see below), but preventing flystrike is key. Review your integrated flystrike management plan regularly.

No single preventative, monitoring or treatment activity should be relied upon alone.

These activities need to consider sheep, flies and weather holistically because

there are three basic conditions required for flystrike to occur:

1. Presence of susceptible sheep
2. Presence of flies
3. Favourable weather conditions to allow the flies to locate and infect the susceptible sheep.

(A) PREVENTION OF FLYSTRIKE

- Well-timed preventative activities can help reduce the risk of flystrike and the development of fly waves, and minimise the need for treatment.
- Some types and classes of sheep are more susceptible to flystrike and should be targeted for preventative treatment.
- No single preventative activity should be relied upon alone – make sure you use a range of well-timed activities in combination.
- An integrated preventative flystrike program includes breeding for flystrike resistance, the use of crutching or shearing, dag control, appropriate tail length, selection of less flystrike-prone paddocks, applying appropriate chemical treatments and killing maggots and removing sources of protein.

(B) RECOGNITION AND MONITORING TO DETECT FLYSTRIKE

- Regular monitoring activities will help you to detect signs of flystrike in sheep as well as conditions which may favour flystrike.

Finding these as early as possible helps prevent severe infections.

- Monitor all mobs of sheep for signs of flystrike during high-risk periods, but especially weaners.
- Monitoring involves a combination of checks including looking for flystrike in sheep, checking populations of flies and checking weather conditions.

(C) TREATMENT OPTIONS WHEN FLYSTRIKE OCCURS

- Treating flystruck sheep is essential to protect the health and welfare of your sheep, prevent economic losses and break the lifecycle of flies.
- Make sure you use a combination of treatment activities and that you don't rely on one single activity alone.
- It's important to make sure all flystruck sheep are effectively treated, all maggots are killed and sources of protein are removed to aid the sheep's recovery and to prevent additional strikes.
- Make sure you continue to monitor your treated sheep carefully, as some woolgrowers are reporting decreased lengths of protection for flystrike treatments.

More information:

The 'It's Fly Time!' webinar is available to be viewed free at any time on the AWI website at www.wool.com/

flystrikeresources, along with the PowerPoint presentation and the following related factsheets:

- Recognising and monitoring flystrike (3-page fact sheet)
- Preventing and treating flystrike (5-page fact sheet).

For more detailed information on flystrike management, including information on chemical resistance management strategies and access to interactive decision support tools, visit FlyBoss at www.flyboss.com.au.

flyboss



Other recent webinars related to parasite management and lamb marking that you might find of interest can be accessed from the AWI Sheep Connect NSW website at www.sheepconnectnsw.com.au/tools/. These include:

- Top tips for lamb marking
- Sheep blowfly resistance
- Breeding for improved flystrike resistance
- Spotlight on barbers pole worm
- Drench resistance and managing sheep worms
- Worms are back, how are you managing?



Hear more about how to keep your flock safe in Episode 166 of AWI's The Yarn podcast at www.wool.com/podcast.

For information on AWI's flystrike research, development and extension program, visit www.wool.com/flystrike.

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Set your sights on parasites

Depending on where your property is located, this summer's weather conditions may have impacted the timing of your worm management activities, encouraged you to restock, or raised your flystrike risk. If your risks are high, it could be time to act; if risks are low, you've got an ideal moment to review your management strategies. No matter what is happening on your farm, ParaBoss and its suite of three products – WormBoss, LiceBoss and FlyBoss – are available 24/7 to help!

wormboss

Top four tips when using drenches

1. 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.

Worm management: It's time to get strategic with drenching

Did you know that by working to reduce worm populations across your property, you can make your sheep enterprise more productive and more profitable? Unnecessary drenching can lead to drench resistance; however, when used right, strategic drenches can help prevent problems before they begin.

A strategic drench is one which is timed to reduce the number of worm larvae deposited on pastures for the benefit of the whole mob, or to help sheep at times when they are most susceptible to worm infection, such as lambs at weaning or ewes pre-lambing. Compare this to a tactical (or therapeutic) drench, which is best given when sheep are suffering from a heavy worm burden, which can be determined by a worm egg count test.

When combined with careful grazing management, strategic drenching assists in creating and maintaining paddocks which pose a minimal risk of worm infection when grazed.

In Mediterranean climate zones such as south-west NSW and north-west Victoria, coastal South Australia and southern Western Australia, worm eggs and larvae die off during the summer, with new pasture contamination after summer coming from worm burdens that have been maintained in sheep (including any selected for resistance through a summer drench). Therefore, early summer drenches are best given to younger, growing sheep that are at threat from worms.

If all sheep are drenched in summer, only drench-resistant worms will be maintained in the sheep, with their eggs deposited on pastures, resulting in the resistant worms being the major source of the next year's worm population. But most adult sheep have low worm egg counts in early summer, so waiting until late March through early April (ie right now!) to give a strategic drench will allow the existing low population of worms to survive in the sheep; these sheep will contaminate the pasture with a population of worms that are less drench-resistant than if all sheep had received the first/early summer drench. This can help slow the development of drench resistance without exposing young, susceptible sheep to an excessive worm burden.



Regional WormBoss Worm Control Programs exist for the above sheep production regions.

In other climate zones, the timing of strategic drenches will depend on a number of temperature and rainfall factors. Consult your region's *WormBoss Worm Control Program* at www.wormboss.com.au/programs.php for more information on the specific timing of strategic drenches. Your region's *Worm Control Program* includes information on planning ahead to prepare low-risk paddocks, as well as breeding worm-resistant sheep and boosting immunity through nutrition.

Regardless of whether you are administering a strategic or tactical drench, there are **three basic principles to be considered when choosing a drench**, in order to slow the development of drench resistance on your property:

1. Use the most effective drenches available to you; aim for those that reduce worm egg count by at least 98%, as these leave fewer drench-resistant worms after treatment. If you don't know how effective a drench is, consider a *DrenchCheck* - see www.wormboss.com.au/tests-tools/.
2. Use an effective combination of two or more drench groups, either in a multi-active product or using more than one product at once. The higher the efficacy of each drench group and the more drench groups included in the combination, the greater the benefit for slowing drench resistance. The odds of any individual worm being resistant to all active ingredients used is much lower than for each individual active on its own!
3. Your region's *WormBoss Drench Decision Guide*, available at www.wormboss.com.au/tests-tools/drench-decision-guide.php can tell you whether to use a short-acting or long-acting drench. There is often very little need to use mid-length or long-acting treatments if animals are being moved to low worm-risk paddocks. **B**

More information:
www.wormboss.com.au

paraboss

Collectively, the three Boss websites – WormBoss, LiceBoss and FlyBoss – promote best practice for the management of sheep parasites at the farm level.

The collective ParaBoss tools are accompanied by a free, **twice-monthly newsletter** which discusses the

current state of sheep parasites nationally, explores issues most pressing on-farm, and provides an update on timely and effective management strategies. Sign up to receive newsletters at www.paraboss.com.au/subscriptions.

Also, join **ParaBoss on Facebook** at www.facebook.com/paraboss.com.au to see regular posts on parasite control.

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

liceboss

Lice infections: they can be prevented

Did you know that it can take up to six months for a new infestation of lice to begin showing signs on your property? If you've been restocking due to favourable conditions during spring and summer, now is the time you'll begin to see the effects of lice, if lice are indeed there.

Nearly all new infestations come from contact with lousy sheep, so if you can't work out where your lice infestation came from, consider the following questions:

1. Have you checked all your property fences to ensure they are secure and safe from stray stock?
2. Have you recently introduced new stock onto your property?
3. If you have recently purchased new stock, did you request a Sheep Health Declaration?

Eradicating lice can be a challenging

process, so ensuring a potential infestation is over before it can begin is vitally important. Developing and implementing a **sheep lice biosecurity plan** will help you prevent the introduction of lice onto your property, which helps protect your stock.

The best approach to preventing a lice infestation is to recognise that all introduced or reintroduced stock pose a lice risk, and treat that risk accordingly. For example, stray sheep from a neighboring property or your own stray sheep returning to the flock are a common source of lice, so maintaining sheep-proof fences is the best method of reducing that risk.

Where practical, quarantining newly purchased stock, applying a lice treatment and waiting to see if signs of lice are found can also reduce the risk of lice spreading from bought sheep. Asking for a Sheep Health Declaration from the vendor can also tell you whether or not you're purchasing from a flock which is known to have lice.

Every business is different and your management strategies will determine your overall lice risk. As such, your lice biosecurity plan will need to consider your unique risk factors and include effective and practical ways to address these. Broadly speaking, however, for your plan to be successful, you will need to identify ways lice could be introduced, understand how

they spread and, above all else, make a firm commitment to eradicating existing lice and preventing new infestations.

Biosecurity is a shared responsibility and communicating and collaborating with your neighbors and community can greatly assist with reducing the risk of a lice infestation on your property.

LiceBoss has tools and resources to help assess your lice risk and create your biosecurity plan. **B**

More information:
www.liceboss.com.au

Liceboss online learning

The *LiceBoss Online Learning* program is free and provides woolgrowers and individuals with practical knowledge on lice control in Australia. Participants can browse through the information provided by the program covering topics from biology of sheep lice, preventing new lice infestations, checking for lice, and treatment options for your enterprise.

Head to www.liceboss.com.au/about-lice/liceboss-online-learning.php

flyboss

Your flystrike management plan: take the time to review it

Flies thrive in warm, wet conditions, and for many producers especially across eastern Australia, these past few months have been the wettest summer experienced for some time – and with it came a greater flystrike risk. As things begin to cool down once more, you have the opportunity to develop or review your annual flystrike management plan.

FlyBoss provides you with the tools and information to tailor a flystrike management plan for your property. Also refer to page 34 regarding AWI's *It's Fly Time!* webinar which detailed how a flystrike management plan should incorporate (a)

prevention, (b) monitoring and (c) treatment activities, but preventing flystrike is key.

The most effective method to reduce the risk of flystrike in your flock involves an integrated approach which combines management strategies with chemical treatments – see highlight box below.

FlyBoss enables you to access local weather and climate information using either the online *Flystrike Quick Tools* or the downloadable *Flystrike Risk Simulator*, allowing you to develop a comprehensive flystrike management plan that considers environmental factors and on-farm practices. Access both tools via the FlyBoss *Tools* menu on www.flyboss.com.au.

FlyBoss can provide you with all the resources you need to assess different options and strategies and choose those which suit your business. It also provides the tools and templates to build an annual **flystrike management calendar**, customised to your business, that incorporates all aspects of your **flystrike management plan**. This template lets you visualise high-risk periods alongside management strategies and treatments that you will be implementing, for a full view of your flystrike management plan in one place. **B**

More information:
www.flyboss.com.au

Strategies to reduce the risk of flystrike

Management strategies include:

- Breeding for flystrike resistance
- Optimising crutching or shearing
- Dag management
- Breech modification
- Appropriate tail length
- Selection of less flystrike-prone paddocks.

Chemical strategies include:

- Choice of treatment chemical group
- Application method
- Product used
- Timing of treatments
- Predicted wool residues.



MLP

Merino Lifetime Productivity Project

Fast facts

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



Ram mating success insights – an MLP Add-On project

The MLP project has created opportunities for Add-On research projects. One of these Add-On projects is happening at the Balmoral, MerinoLink and Macquarie sites and is exploring if better prediction of ram mating success can be achieved through extensive pre-joining physical examination and semen screening.

The work commenced in 2019 at Balmoral, hosted by Tuloona Pastoral, led by Andrew Whale and Lexie Leonard (Livestock Logic). This has since extended to the MerinoLink site, hosted by Moses and Son, and the Macquarie site, hosted by NSW DPI. MerinoLink and Macquarie's work is led by Jill Kelly (Central West LLS) and Tim Gole (For Flocks Sake).

Each year, the MLP F1 ewes are joined to syndicates of Merino sires and DNA parentage tests are used to allocate sire and dam to their progeny. Results show that some sires in the syndicates are consistently good at getting ewes in

lamb and on the ground, whilst others are consistently bad.

The Add-On project sees race-side pre-joining inspections of the sires capturing scrotal circumference, testis tone, liveweight, condition score, fat score, age, teeth alignment, feet condition and gait. Semen is assessed for colour, density, mass activity, percentage live and motility. The semen samples are then sent off for more extensive morphology testing.

Rams assessed as *unsuitable* for joining were still added to each syndicate *in addition* to the number of rams required for joining. Progeny numbers per sire

are being collected and compared with the results of the physical assessment and semen testing to determine if they were able to explain the range in progeny performance.

Andrew Whale explains the rationale behind the work: "We are involved in extensive pre-joining physical and semen examination of bulls but the practice is not routinely carried out in sheep operations," he said.

"Essentially we are adding two extra steps in the routine pre-joining ram assessment. The first involves the physical palpation of testes by experienced operators; many testicle problems are subtle and easily missed if not palpated.

"The second step involves a semen analysis race-side and then more extensive testing in the lab. The race-side screening helps us determine what percentage of the sperm are swimming forward and alive. The lab-based testing determines what percentage of the sperm are normal.

"From this we get a really good idea of the percentage of the sperm that are both swimming forward plus anatomically normal and fit for fertilisation to occur.

"Work done with Bos Indicus cattle showed a positive correlation between better semen morphology and improved fertility in the daughters of these sires. If this relationship is true for sheep, then it will be a good approach for also improving conception rates in sheep."

At Balmoral in the first year of the Add-On, the sires joined to the MLP ewes were categorised as *fail* (6 sires out of 26), *borderline* (12 sires) or *pass* (8 sires). The average number of progeny per sire when joined at 2%



and within these categories was 15, 51 and 72 respectively.

While the first year of results from Balmoral are encouraging, a second year of assessment is under way to create a larger dataset and confidence in the results. Like Balmoral, the initial Macquarie results appear positive, although similarly more data is needed to be confident. The additional data will be generated from a second assessment at Macquarie and first assessment at the MerinoLink site.

Although reproduction success is largely driven by the ewe, having the rams in good condition with healthy semen optimises mating outcomes. For commercial growers these mating success indicators would be valuable if they were available for consideration in ram purchasing decisions. **B**

MerinoLink's inspection day & webinar

The latest MLP results from the MerinoLink site were featured in a Sheep Connect NSW 1½-hour webinar 'MerinoLink: Beyond the report' that can be accessed, along with the MerinoLink results report and key site information, at a newly developed site-specific webpage: www.merinosuperiorsires.com.au/merinolink2020mlp/

NEW: An explanation of the MLP reports

If you're new to the MLP project, or want to better understand the different types of results that the MLP project is reporting, an explanation video has been developed from the MerinoLink webinar. Pingelly's MLP Site Manager, Dr Bronwyn Clarke (Murdoch University) outlines the different types of results including raw data, adjusted sire means, breeding values and indexes which are reported within the MLP reports. The 18-minute video is available on the AMSEA YouTube channel at <https://youtu.be/vjNX9toiOWU>

ASBVs for MLP sires now searchable on MERINOSELECT

MLP sires are now searchable on Sheep Genetic's MERINOSELECT database by selecting the *MLP Sire Checkbox* in the basic search filter. Australian Sheep Breeding Values (ASBVs) are reported for the MLP sires and the ASBVs reported can be customised using the *Customise ASBVs* button. ASBVs enable comparison of a sire's expected genetic performance relative to other sires in Australia. The MERINOSELECT database is available at <https://search.sheepgenetics.org.au/search/dashboard>



Macquarie pre-joining sire inspections with **Jill Kelly** (opposite page) and **Tim Gole** (above), July 2020. PHOTOS: Kathryn Egerton-Warburton, NSW DPI



MLP
Merino Lifetime
Productivity Project
ADD-ON PROJECT

AWI Program Manager Genetics and Animal Welfare Advocacy, **Geoff Lindon** (second from right), Murdoch University researchers **Andrew Thompson** (fourth from left) and **Sarah Blumer** (fourth from right), with the **Murdoch team** and a sedated wether ready for the DEXA measurement. (The clipped patch on the wether's side is for assessing changes in wool growth in different diets.) PHOTO: Bob Garnant, Countryman WA

Can we find a better way to compare sheep performance?

An AWI-funded study 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 rather than the current blunt use of metabolic body weight (DSE rating).

Since Merino sheep first touched Australian soil, breeders have been selecting for animals that produce more wool, better wool and, in more recent times, more lambs and more meat. Past and present breeders have been successful at improving the Merino sheep we farm with today, and Merino productivity per head continues to climb.

Despite these great advances, there are still many things that we do not understand about the biology that underpins the changes that we see on the surface. We could be excused for thinking that it does not really matter, that as long as the animals are getting more productive, it is not important as to how the animal is achieving the new level of performance. However, we do not run Merino sheep as individuals and we do not have unlimited feed resources on-farm, so it is important that we understand how genetic change is impacting on the inputs required. These inputs include nutritional quantity and quality, and level of husbandry

care, both of which affect the number of sheep that can be carried throughout the year and through variable seasons.

The animals in the Merino Lifetime Productivity (MLP) project have presented a perfect opportunity to start to build a greater understanding of how selection strategies are impacting on the underlying needs of the animal and its efficiency in creating wool and lamb outputs. Data collected on the MLP animals has provided a perfect platform to launch additional studies.

An important project known as GEPEP – which stands for Genetic Evaluation: Productivity, Efficiency and Profitability – is being funded by AWI and conducted by a team of researchers at Murdoch University in Western Australia. The project started in 2018 with significant experiments undertaken during 2019 and 2020 using the animal house at the Katanning Research Facility maintained by DPIRD. These trials have centred around

understanding differences that exist between F1 wether progeny from the MLP sires used at the Pingelly site for animal feed intake, weight loss under low feed availability, feed-use efficiency when gaining weight and energy storage across a range of nutritional regimes.

Do animals of the same liveweight differ in the amount they eat?

In any trial trying to compare bloodlines, whether wether trials, sire progeny tests or on-farm comparisons, we have always assumed that the intake of animals is directly linked to how much they weigh. That is, we assume that the heavier animals are eating more, and we make an adjustment to their profitability based on a lower predicted stocking rate.

Unfortunately, this is a very blunt and inexact method as it assumes there are no efficiency differences between sheep



DEXA image of a wether for the assessment of the carcass components of fat and lean tissue.

genotypes of the same weight. We have seen in the MLP trial that some sire groups end up in considerably higher condition scores under the same conditions suggesting some fundamental differences between progeny groups.

To appropriately compare sheep genotypes, we need to understand the magnitude and importance of these differences. This is one of the key parts of the GEPEP project. Sire groups of wethers have been fed in individual pens throughout the course of the GEPEP experiments so that an accurate measure of feed intake can be calculated, and sire groups compared.

Yes, genotypes do vary in feed intake at the same liveweight.

Do animals differ in the way they store energy and how much they store?

The GEPEP project team has measured differences between genotypes in the total body energy store. The measurements were done using dual energy X-ray absorptiometry (DEXA) and have also been assessed with less intensive measurements in an attempt to identify a suitable on-farm test.

These differences are likely to reflect in differences in the ability to farm the animals at high stocking rate or differences in the supplementary feeding needs.

Similar to feed intake, these differences in whole body energy reserves between sheep genotypes have not previously been considered when valuing the differences between sires or bloodlines.

These differences do seem to be significant when we study previous work and the results from the MLP project clearly show that sire groups differ in their condition score when run together. In order to fully understand these differences and what it might mean for comparison of sire groups, whole-body energy reserves have been repeatedly measured on the MLP wethers throughout the GEPEP project.

The total energy reserves in the body are a combination of the total amount of lean tissue (made up of muscle and organs) and total amount of fat tissue. The energetic value of fat and lean tissue is then used to estimate the whole-body energy (measured in megajoules) of a sheep at a particular point in time. The differences in proportion of fat and lean tissue can have an impact on whole-body energy because 1 kg of fat tissue

stores about 36 MJ of energy whereas 1 kg of lean tissue only stores about 5 MJ of energy.

Understanding feed-use efficiency in Merino sheep

Having animals that eat less to achieve the same production has been an important aim across many livestock breeding programs. Considerable success has been achieved in the intensive livestock industries like chicken and pork but very little is known about how current selection strategies in Merino sheep impact on feed-use efficiency and whether there are ways that improvements could be made.

The GEPEP work has completed extensive measurement of feed-use efficiency under a range of feeding scenarios which are currently being analysed to learn more.

What have we learnt?

The main experimental phase of the project

CONTINUED ON NEXT PAGE

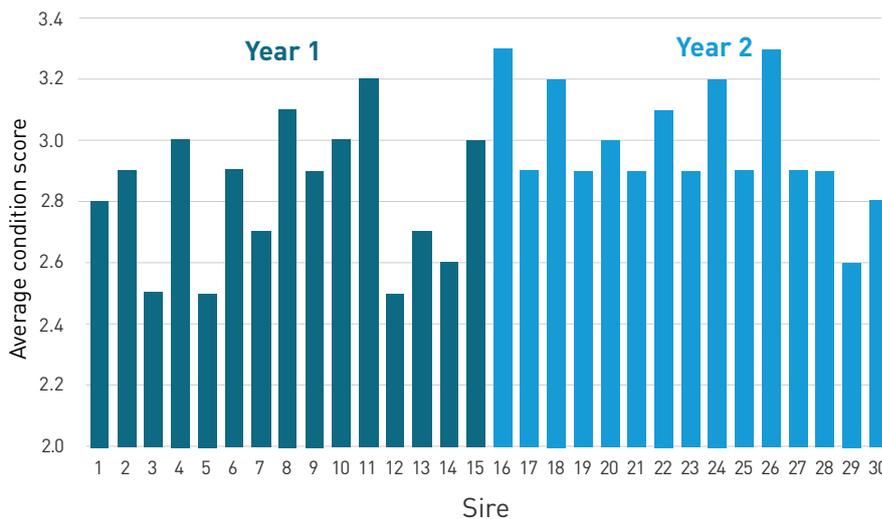


Figure 1. The **average condition score** of 3-year-old wether progeny from 15 different sires in year 1 (2016 drop) and 15 sires in year 2 (2017 drop). The progeny from each drop had grazed together since birth and their condition score was measured at the start of the experiment at the end of summer/early autumn.

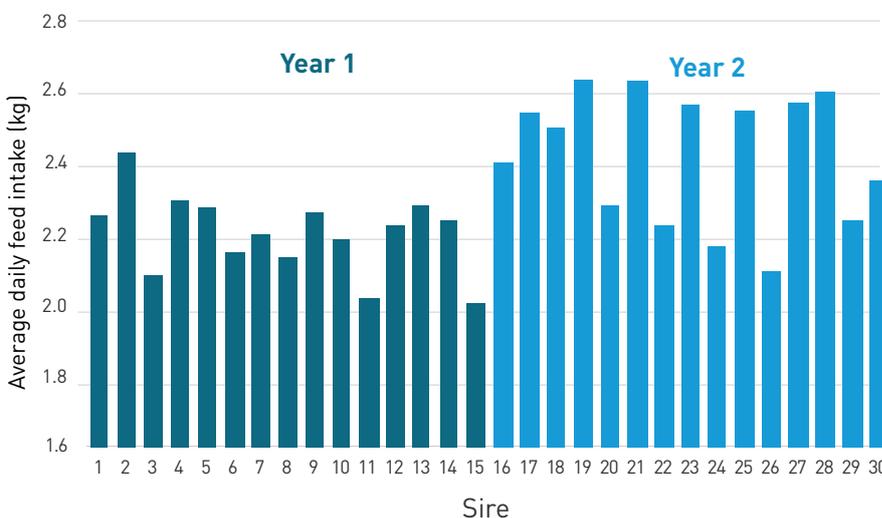


Figure 2. The **average daily feed intake** of 3-year-old wether progeny from 15 different sires in year 1 (2016 drop) and 15 sires in year 2 (2017 drop). The progeny were offered unlimited feed for 35-days in individual pens at the Katanning Research Facility. Clearly this difference between genotypes will have a big impact on a production system.

CONTINUED FROM PREVIOUS PAGE

was completed in 2020 and the project team is now busily combining and analysing the results. What has become clear throughout the project is the large variation that exists between sire groups for wool traits, carcase traits and energy stores or condition score. This was apparent even though the animals had been running in the same paddock since conception.

Readers will be well versed in condition scores with Lifetime Ewe Management guidelines suggesting Merino ewes should be around condition score 3 at key reproductive stages (see page 28). The LTEM course focuses on the management tools to help producers meet these targets, however there was also a significant difference in the condition score of different genotypes under identical management. The wether progeny groups from different sires varied as much as 0.7 condition score units in the GEPEP experiment (see Figure 1 on previous page).

The feed intake results from the work have also been fascinating. There are big differences between sire groups in how much the sheep ate when given unlimited opportunity (ad libitum feeding). The differences between sire groups were as much as 0.5kg per day or around 25% different (see Figure 2 on previous



Wethers for the individual pen trial component of the project at the **DPIRD WA Katanning Research Facility**.

page). Clearly this difference between genotypes will have a big impact on a production system.

Where to next for the project

All the results that have been generated throughout this important project will be analysed and combined. Then, prior to the project concluding in 2024, the aim will be to generate a new method to turn \$ per head assessments into \$ per hectare rather than continuing to use the current blunt liveweight adjustment used in genotype assessments.

The improved method will either use the existing wool and meat production per head data or combine existing data better

with new novel practical measurements to better predict profit per hectare.

In time, the project aims to provide ram breeders and buyers with a better understanding of the feed input implications of selection for various production traits through MERINOSELECT production indexes. It is a complex area and will take further refinement to get the efficiency gains that intensive livestock have achieved; however, that is the ultimate aim. **B**

More information:

Sarah Blumer, research officer at Murdoch University, s.blumer@murdoch.edu.au
Andrew Thompson, Professor at Murdoch University, andrew.thompson@murdoch.edu.au

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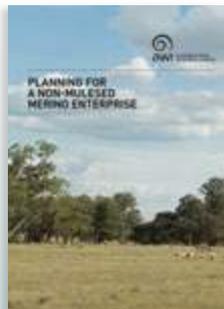
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Breeding for natural flystrike resistant Merinos - publications

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

(May 2020)

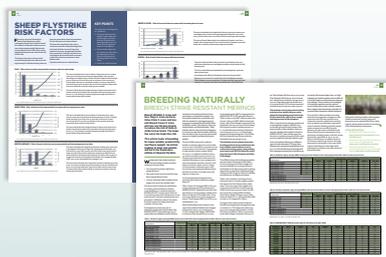
This RD&E Technical Update, by AWI's Geoff Lindon, on sheep breeding and selection for flystrike resistance reports on changing genetic trends as indicated by MERINOSELECT ASBVs since 2000.



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

(March 2020)

BREEDING NATURALLY BREECH RESISTANT MERINOS

PART 1 - June 2020

PART 2 - September 2020

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



RATE OF GENETIC GAIN IN REDUCING BREECH FLYSTRIKE

(May 2020)

This RD&E Technical Update, by the University of Adelaide's Forbes Brien, discusses the relative gains between flystrike incidence and fleece weight, fibre diameter and reproductive rate and their implications for Merino breeding programs.



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*.

Feralscan™ celebrates 10 years of pest monitoring

FeralScan™ is a free resource that woolgrowers – plus other landholders, community groups and professional pest animal controllers – can use to record information about pest animal activity in their local area.

FeralScan™ is a free community pest management resource from the Centre for Invasive Species Solutions. It includes sections devoted to the key pest animals that affect the businesses of woolgrowers: wild dogs, foxes, rabbits, feral pigs and deer.

You can use FeralScan™ to map pest animal activity, document problems, upload photos, and record control activities. By keeping yourself and your neighbours informed about pest animals in your local area, you are helping protect farms and their livestock, biodiversity and communities.

Launched on Australia Day 2011, FeralScan™ has marked its tenth anniversary with a major upgrade, which will enhance pest animal management programs across Australia.

Peter West, FeralScan™ national coordinator and invasive species specialist with NSW Department of Primary Industries (DPI) said FeralScan™ has grown from a simple citizen science project into a popular, community-led monitoring and management program with more than a quarter of a million pest animal records.

"FeralScan™ contains data entered by more than 25,000 people, making it the largest community-driven pest animal monitoring program in Australia," Peter said.

"Continuous input from farmers and other users has delivered an important resource which informs pest animal

management programs across the country.

"More than 400 community and biosecurity groups now use the resource in a strategic way to monitor pest animals, plan control, document their efforts and evaluate outcomes".

Helen Lawson, sheep producer and Hargraves-Hill End Landholder Group Secretary in the Central Tablelands of NSW, is a proud ally and FeralScan™ user.

"We use FeralScan™ to monitor wild dog activity. It automatically notifies landholders and the local community of wild dog reports, which help us plan and undertake control measures," Helen said.

"The group has used FeralScan™ to record wild dog sightings, attacks on livestock and control activities across their district to improve the effectiveness of management. It has become increasingly useful as more people use the resource."

FeralScan™ works through a user-friendly website and phone app and Peter has travelled across Australia to consult with and support landholder and community groups to ensure they are getting the full benefits of the resource.

In 2016, FeralScan™ was recognised with a national Banksia Foundation



Launched on Australia Day, 2011, FeralScan™ marks its 10th year milestone with a major makeover and enhancements to its dashboard interface - check it out at www.feralscan.org.au.

Award for its contribution to enhancing environmental outcomes within Australia through science and research innovation. Another FeralScan™ milestone was the 2017 national release of the RHDV1 K5 rabbit biocontrol agent when it became Australia's first real-time rabbit biocontrol monitoring service.

FeralScan™ receives funding from AWI, the Department of Agriculture, Water and Environment and NSW DPI through the Centre for Invasive Species Solutions. **B**

More information:

FeralScan™ can be accessed at www.feralscan.org.au or the app can be downloaded by searching for 'FeralScan' in Apple or GooglePlay stores.



Record pest animal activity in Feralscan™

FeralScan™ is a free resource that has been designed by landholders and is very easy to use. Its sections include WildDogScan, FoxScan, RabbitScan, FeralPigScan and DeerScan in which you can record the activities of the key pest animals that affect woolgrowers.

What to record

1. Sightings and evidence (eg wild dog footprints, rabbit warrens) including photos from monitoring cameras
2. Attacks (ie livestock predation) and damage (eg soil erosion near rabbit warrens)

3. Control activities (eg baiting or trapping for wild dogs and foxes, rabbit warren ripping)
4. Disease in rabbit populations (such as RHDV).

Benefits of using FeralScan™

1. Develop a property or local area map of pest animal activity to guide control efforts
2. Work together with your neighbours to undertake coordinated control
3. Notify your local community or landholder group about pest animal activity
4. Send alerts to nominated people, such as neighbours or biosecurity authorities.

HOGGONE® feral pig bait is a game changer

The number and range of feral pigs are likely to increase dramatically due to the recent wetter weather which has provided the pigs with plenty of feed and water. However, the launch of a highly effective and targeted new bait, HOGGONE®, will be a timely game changer in feral pig management.

A remote camera shot of feral pigs taking the HOGGONE® bait from the specially designed HOGGONE® bait box.

Up to an estimated 24 million feral pigs are spread across 45% of the Australian mainland and cost the agricultural industry more than \$100 million each year by preying on livestock and causing significant damage to grazing and arable land.

The wool and sheep industries are directly affected, largely via predation of lambs, but also by damage to fences. Furthermore, feral pigs wallow and foul up water sources, turn over vast areas of soil when rooting for food, and facilitate the spread of weeds.

Feral pigs also host serious diseases and, if the highly contagious African swine fever ever gets into Australia and feral pigs prevent eradication, there is the risk that it could indirectly affect the livestock trade of industries other than pork.

Effective, humane and environmentally conscious

After more than a decade in development, a new feral pig bait called HOGGONE®, which was formally approved recently by Australian regulatory authorities, offers an effective, fast-acting, and humane solution to target feral pigs.

HOGGONE® was developed by Animal Control Technologies Australia (ACTA) through the former Invasive Animals CRC with collaboration from USA and New Zealand scientists and support from MLA and AusIndustry.

"The capacity of HOGGONE® to cull large herds of feral pigs quickly and humanely has the potential to revolutionise landholders' approach to management," said vertebrate pest specialist and ACTA Managing Director Dr Linton Staples.

"The new bait has an innovative formulation of the active ingredient, sodium nitrite, which is a very effective and targeted poison for pigs. Sodium nitrite is a common food preservative which is safely used in low concentrations; people and most animals can tolerate modest amounts of sodium nitrite, but pigs lack the protective enzyme that is present in other species.

"HOGGONE® is a key part of the solution to the feral pig problem in Australia."

Dr Linton Staples

"HOGGONE® renders pigs unconscious before they die, typically within one to three hours, without suffering. Thanks to the fast-acting nature of HOGGONE®, carcasses are typically found within 200m of the bait point which provides visual confirmation of impact and easy carcass retrieval, if required.

"Additionally, the pig carcasses pose no risk to scavenging animals, and the HOGGONE® bait itself quickly and totally degrades without trace so there is no risk to contamination of the environment and delicate ecosystems."

Widely accessible and proven successful

HOGGONE® is a Schedule 6 poison so landholders can buy and use it without specific training or certification. It is deployed via a specially designed HOGGONE® bait box that non-target animals cannot access.

Early adopters across Australia are having excellent results on the landscapes they manage and farm.

Toowoomba-based pest researcher

and consultant Darren Marshall has run trials to test HOGGONE® in south west Queensland on multiple properties and in a national park.

"If you use as the label suggests, it works very well. It is very humane and achieves really good knockdown with a lot of the dead pigs found close to the baiting station," said Mr Marshall, the General Manager - Commercial Programs at natural resource management organisation, Southern Queensland Landscapes.

"We need to kill 75% of the feral pig population in an area to control them, and you can only do that through baiting or aerial shooting. That's why HOGGONE® is a really important additional tool in controlling feral pigs."

HOGGONE® will overcome some shortcomings of the use of 1080 in baits for feral pigs. In comparison to the use of 1080 at low doses in baits for wild dogs and foxes, 1080 has to be used at much higher dose rates for feral pigs and therefore is a comparatively higher risk to non-target species such as birds.

The success of feral pig control relies on a co-ordinated effort of all landholders in a given area working co-operatively. Baiting can be very effective and forms the foundation of an effective control program, when used as part of a coordinated effort by landholders along with other control methods such as shooting, trapping and fencing. This suite of feral pig control techniques can be incorporated with wild dog and fox control techniques to form an integrated pest management program. **B**

More information:
www.animalcontrol.com.au/products/hoggone

AWI equipment assists with SA Dog Fence rebuild

Innovative machinery owned by AWI that was used to build wild dog exclusion fencing in central Queensland is now being used by contractors working on the rebuild of the South Australian Dog Fence.

The 115-kilometre second stage of the \$25 million South Australian Dog Fence rebuild began in November with cutting-edge equipment brought in from interstate to help deliver the project.

The AWI-funded exclusion fencing construction unit (EFCU) in Queensland has been used by woolgrowers in the Central West of Queensland. However, with about three-quarters of the potential exclusion fencing now successfully completed there, demand for the unit has declined significantly and AWI has therefore been able to provide access to the EFCU for replacement of the South Australian Dog Fence.

The Dog Fence protects South Australia's livestock industry by stopping wild dogs from migrating into land used for sheep production. However, more than two-thirds of the Dog Fence is more than 100 years old – it is ageing and brittle. Many sections have been degraded by

kangaroos, emus, feral camels, wild dogs, weather events and sand build-up.

Federal Minister for Agriculture, Drought and Emergency Management, David Littleproud said the start of the rebuild of the second section was an important development at a time when agriculture remains central to the national economy.

"The rebuild will reduce wild dog management costs for pastoralists by up to \$97 million and is estimated to increase income from sheep sales by up to \$69.7 million over a 20-year period," Minister Littleproud said.

"The rebuild of the Dog Fence is being jointly funded by the Commonwealth Government (\$10 million),

the State Government (\$10 million) and the sheep industry (\$5 million). It is another great example of what can be achieved when governments and industry work together."

South Australian Minister for Primary Industries and Regional Development David Basham said that, having completed 26 kilometres for the first stage of the Dog Fence rebuild, this next stage of the project will focus on 115 kilometres of fence from the corner of Curnamona Station and Billeroo West Station through to the NSW border.

"In the midst of a drought, the rebuild is raising the spirits of pastoralists whose sheep flocks have been severely impacted by the scourge of wild dogs," said Minister Basham.

Based on the Caterpillar 910K articulated loader, the EFCU offers the capacity to drive posts and run wire with ease. The hydraulic flow capacity of the Caterpillar 910K gives this machine the capacity to handle the heaviest loading, driving and lifting tasks that building a wild dog exclusion fence can impose.

The commercial grade hydraulic hammer can drive the largest steel strainer posts. Two metre plus line posts can be driven into the toughest soils with ease. The Ezywire® spinner can be loaded with 3 x 250 metre or 2 x 500 metre rolls of prefabricated netting up to 1.8 metres wide.

The EFCU can run out up to a kilometre of fencing already strained to the correct pre-set tension before the spinner has to be reloaded. All attachments feature Caterpillar's 'quick attach' coupler and can be attached and detached without leaving the air-conditioned cab. **B**

More information:
www.pir.sa.gov.au/dogfence

"Having a loader, hydraulic post driver and Ezy-Wire® spinner loaned through Australian Wool Innovation until 2024 is an example of industry working together for the benefit of South Australian pastoralists."

David Basham, SA Minister for Primary Industries

Traps bring well-being year after year

Producer **Wayne Houston** became proficient using AWI-funded traps with help from his local Wild Dog Controller.

AWI-funded trap kits have been a valuable long-term investment, with traps bought in 2015 still being used to capture wild dogs and foxes six years later.

Trapping can be effective in helping combat wild dog and fox predation when used as part of a coordinated effort by landholders along with other control methods such as baiting, shooting, fencing and guardian animals.

In 2015, the Mansfield-Broken River community wild dog control group in Victoria was one of the first groups to take advantage of the opportunity to use AWI funding available at the time to buy trap kits. The group, which initially comprised seven members, bought five trap kits in 2015, but an expansion of numbers, combined with confidence in its members' ability to capture wild dogs, encouraged the group to purchase seven more trap kits in 2017.

Several free training days in the use and care of the traps were run by the AWI-funded Community Wild Dog Control Coordinators, and DELWP Senior Wild Dog Controller (WDC) David Klippel went on-farm to help interested landholders improve their skills.

One landholder who benefited from the initiative is the last person running sheep in Mountain Bay, Wayne Houston. Wayne received six soft-jawed Jakes traps, learned the basics by watching demonstrations at field days and training events, then honed his skills by working hands-on with David.

"Dave has been great. He has showed me how and where to set the traps, and what to use as lure," Wayne said. "Having a trap in the ground gives me peace of mind. At the first sign of trouble, I get my traps in and call the WDC. It's good to know I can do something before he gets here."

Brendan Mahoney, from Merrijig, is another landholder who has become proficient in trapping since his group acquired its kits. He has captured eight wild dogs, and has helped other landholders to build their skills.

For Brendan, the benefits of trapping include always having a trap available, being able to target specific species, and the certainty of knowing that a dog or fox has been captured.

Other group members, Tom Forrest and Garry Breadon, find that traps are particularly worthwhile during lambing season. Tom captured one wild dog and eight foxes during spring.

Traps are only useful if they are being used. If you have a trap that is sitting idly on the shelf, please consider sharing it with a friend or neighbour. WDCs in Victoria are available to

train local landholders in the art of trap setting and management.

Funding for the purchase of traps through AWI's Community Wild Dog Control Initiative has currently had to be suspended due to reduced overall AWI income. Woolgrowers will have the opportunity to address this issue at the upcoming WoolPoll in the spring of 2021. **B**

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Wild dog control benefits native wildlife

Wild dog and fox control programs not only support the livelihoods and emotional wellbeing of livestock farmers, they also help conservation efforts for endangered native wildlife.

Woolgrowers primarily undertake wild dog and fox control programs to minimise attacks on their flocks, thereby improving the welfare of their animals and reducing the financial and emotional impact on themselves and their families. However, control programs also have a positive environmental impact, reducing predation on Australia's native animal species.

When it comes to food, wild dogs are not fussy diners, they prey on 229 native animals including mammals, birds and reptiles of all sizes from insects to water buffalo. However, they prefer to eat small and medium-sized mammals when available, including native mice, dunnarts, bandicoots and wallabies.

In addition to direct predation, wild dogs carry hydatid worms (*Echinococcus granulosus*), a zoonotic disease (transmittable to humans) that has severe implications for native species, particularly macropods such as the rare bridled nailtail wallaby thought to be extinct for most of the 20th century.

Wild dogs have been directly

implicated in the rapid decline of some of Australia's most iconic species including 14 native mammals, reptiles and birds listed under the national *Environment Protection and Biodiversity Conservation Act 1999*.

These 14 threatened species include 10 mammals: marsupial moles, smoky mouse, golden bandicoot, northern quoll, greater bilby, long-footed potoroo, bridled nailtail wallaby, Proserpine rock-wallaby, koala and northern hairy-nosed wombat; three birds: black-breasted button-quail, malleefowl and southern cassowary; and marine turtles.

A four-year study by Australia's leading koala conservation researchers identifies wild dogs as "by far the most significant threat to the species" at its study site in south-east Queensland.

Woolgrowers and other landholders undertaking wild dog and fox control programs are therefore rightly proud that they are not only protecting their flocks, but are also helping native wildlife to survive and thrive.

1080 is target specific to dogs and foxes

Sodium fluoroacetate (1080) is the major control tool used to manage the impacts of wild dogs and foxes on Australia's livestock industry (and to protect threatened native fauna). It can be very effective when land managers use it as part of strategic, broadscale, coordinated control programs supported by other control methods such as trapping, fencing, shooting and guardian animals.

1080 is a naturally-occurring toxin found in more than 30 species of Australian native plants. It is an environmentally responsible option for invasive species control because Australian fauna are highly tolerant to it. Wild dogs on the other hand are highly susceptible to 1080.

The target specificity of 1080 to wild dogs is further enhanced by using meat-based baits, placing baits carefully and strategically, burying or hiding baits, tying them to known locations, and regulating minimum size of the baits used. State and territory regulations also manage the use and availability of 1080 baits to lower the risks to non-target species.

1080 is environmentally safe as it biodegrades quickly and is broken-down into harmless compounds by microorganisms and bacteria when exposed to soil and water. **B**

More information:

www.pestsmart.org.au/toolkit-resource/wild-dog-risks-to-threatened-wildlife
www.wilddogplan.org.au/biodiversity-welfare

Quoll sightings on the rise

Scientific evidence and leading ecologists have long supported the view that aerial baiting is good for quolls. A 2008 study found that you are 100 times more likely to find spotted-tailed quolls in areas with long-term aerial and ground baiting for wild dogs and foxes.

Baiting helps protect quolls by reducing predation from introduced predators such as wild dogs, foxes and cats, while reducing competition for quolls' food sources, giving fledgling populations a fighting chance to rebuild.

In North-East NSW's rugged terrain, where successful aerial baiting campaigns have been held for several years, there are encouraging reports from producers of quoll sightings – in some areas these are the first for generations.

AWI's wild dog coordinator for North East NSW, Dave Worsley, is a second-

generation cattle and sheep producer on the Northern Tablelands. He is excited to find quolls returning to his farm and hearing similar reports from his neighbours.

"My family has been there since 1968 and we've never had quolls until now," he said. "I've even seen quolls on the Severn River and I spent a lot of time as a child roaming that river, fishing in the dark, and never once saw a quoll.

"I've also heard Pindari Dam campgrounds have recorded quoll sightings, it's really exciting, and the other day we had a laugh. A neighbour of mine was having trouble with possums, he thought, turning on his radio in his caravan at night. I lent him a camera trap and it turned out to be a family of quolls." **B**

More information:
www.wilddogplan.org.au/research



A young spotted-tailed quoll. PHOTO: CraigRJD



Kangaroo Island bounces back

John Symons, daughter Hannah and granddaughter Celine in the new shed at Turkey Lane.

If anyone needed a reminder of just how resilient and optimistic people are within the wool industry, look no further than 'Turkey Lane' on Kangaroo Island in South Australia.

In just one year, the Merino operation that was running 6,000 sheep on 530 hectares on the western side of the island has gone from being burnt out with devastating results to now having a new woolshed, new fencing and new optimism towards the industry.

Kangaroo Island is famous for its fine wool production and there is a good reason for that. Merino wool is the highest value per kilogram agricultural product that can be grown on the island, a place that relies heavily on the ferry with the mainland and therefore producing wool reduces the relatively high transport cost incurred.

In January last year, Kangaroo Island suffered a horrific bushfire that broke all the rules as it savaged the western side of the island and destroyed 57,000 sheep. Turkey Lane Merinos lost almost half of all its sheep including 100% of the ram team, a near complete wipeout of weaners and 60% of nucleus flock pedigree ewes; the wool shed burnt down as well as the homestead not to mention all fencing.

At the time John Symons said his lifetime's work had been destroyed and questioned whether he could in fact recover, but the family operation has recovered strongly over the following 12 months, despite the pressures of a global pandemic.

John's daughter Hannah says they were able to get through thanks to plenty of help and support of community, family and friends.

"We can't change what happened, but we've picked ourselves up and we are now looking into the future with great optimism," she said.

With ram lambs surviving the fire, they were intensively fed to use for mating and sold well in November. The hospital

flock of 1,100 sheep or nearly a third of flock ewes were also nurtured back to health. The 96% conception rate last year proved what a great job the family did getting the flock back on track.

Having been part of the Balmoral Sire Evaluation for many years has been a great way for the operation to gain feedback about its genetics.

The biggest challenge now for the closed flock is to build up numbers over the next few years to full capacity again. Lifetime Ewe Management skills (see page 28) that Hannah has acquired coupled with John's lifetime experience makes for a great combination.

Turkey Lane has recently carried out its first shearing in the new woolshed which went well.

"We didn't have a lot of time to research new shed designs so we used the AWI design (see right) and it's working really well; it's been a big improvement with a lot of little things adding up to a shed that works well," Hannah explained.

Shearers and crutchers were hard to find and Turkey Lane used the AWI two-stand shearing trailer for some crutching prior to the new shed being completed.

"A lot of people have been able to use the trailer which has been a big help but hopefully people are slowly getting sheds and infrastructure back now," Hannah said.

"We know the wool industry has its ups and downs but we are really positive about the future. One of the many things I like about growing wool is the ability to track progress so we do a lot of testing, weighing and benchmarking and having this driving our flock forward is really exciting." **B**

Free shearing shed blueprints

The shed design that was used at 'Turkey Lane' (and by many other woolgrowers across Australia) was developed in 2019 by AWI with the guidance of a shearing industry working group.

The shearing shed design aims to improve the efficiency of workers and the flow of livestock – while optimising worker safety, animal welfare and the quality of wool preparation.

The design was developed following extensive industry consultation with shearers, wool handlers, classers and woolgrowers, plus reviews of existing working sheds. Multiple trials led to refinements and a final design.

The internal fit-out, incorporating the stands and yards, has been designed to have its own structural integrity so can be built within any suitable pre-existing shell.

The blueprints of the shed's design (technical drawings for a six-stand shearing shed, plus the floor plan for working group member Hilton Barrett's 'Arrow Park' shearing shed, the first built from the designs) and a video about the design process are available free on the AWI website at www.wool.com/sheddesign. **B**



The first shearing in the new shed at 'Turkey Lane'.

Mobile shearing delivered to your door



3D Shearing that services NSW has a modern three-stand trailer with a portable enclosed wool-room

Wool-growing properties come in all shapes and sizes. Some are tens of thousands of hectares, while others have just a small back paddock. Some woolgrowers have thousands of sheep, while hobby farmers have just a few. And some properties have been in the family for generations, while others have owners who are new to farming.

But one thing that all wool-growing properties have in common is that their sheep have to be shorn. Most properties have a perfectly good shearing shed for this – be it a hundred years old or brand new.

However, there are properties that have a shed needing renovation or rebuilding, while other properties sometimes need extra capacity in their shed, and some smaller properties simply don't have a shed at all. An option for these woolgrowers might be mobile shearing.

There are several contractors across the country that have mobile shearing trailers that they can drive to a property for the shearing. They range from simple one-stand trailers suitable for small properties or for specialist ram shearing, through to large three-stand trailers that look more like a shearing shed on wheels.

3D Shearing is a contractor, based at Dripstone near Dubbo in NSW, which last year invested into a custom-made three-

The shearing shed is as iconically Australian as a pair of thongs at Bondi Beach. And while there are plenty of sheds being built or renovated across the country, an alternative option for some woolgrowers might be to have their shearing done on a mobile shearing trailer.

stand mobile trailer. The business is run by Jim Murray, who has more than 40 years of experience in the wool industry, and his two sons Andrew and Nic. All three have represented NSW at National finals for competition shearing.

Not only do they supply a three-stand trailer on which to shear, there is also a portable blow-up shed that goes over the trailer with plenty of extra room to contain the wool table, wool press and bales. Once it is unrolled, the blow-up shed is up in five minutes to a size of 14m x 12m. It can even be set up in a machinery shed or hay shed, rather than outside.

Jim says the design of shearing facilities, whether in a shed or a mobile trailer, affects the efficiency of sheep work as well as the health and wellbeing of both people and sheep.

"Our trailer has been specially designed with a short drag system that minimises the chance of injury to the shearer and the sheep whilst also maximising productivity with reduced catch times," Jim said.

"I have been inside many sheds during the past 40 years and the facilities in many of the new ones are fantastic. But some other sheds are getting very dated and no longer suitable as a modern workplace. Some are not set up to minimise injuries or make the job of shearing as efficient as it could be. Working conditions in these types of sheds need to improve to attract shearers.

"By hiring a modern mobile wool harvesting facility like ours, you can be assured of a good night's sleep knowing that you have supplied a safe workplace for your team."

Jim says that the other major benefit of hiring a mobile set-up for those woolgrowers who are considering building a new shed is the relative cost.

"Let's say a new shed costs \$350K, then you need to insure it and maintain it for its working life and buy a press and run power and you may only use it 10 days a year. That is a lot of money to tie up in an unproductive asset," Jim said.

"They could hire our mobile facility for only \$1K a day complete with wool press and 23KVA generator and avoid the insurance and maintenance costs. They can put their money into improving their property's other assets such as water, fencing or genetics, and have the money working for them instead.

"Furthermore, there's a lot for woolgrowers to consider when designing and constructing a new shearing shed, whereas hiring a mobile service is easy."

Shearing World, owned and operated by Darren and Deborah Smith, specialises in the shearing of cross-bred rams. The company is based at Naracoorte in South Australia and services the south east of the state and the western district of Victoria with their three shearing trailers.

"We use the Peak Hill Industries ShearEzy unit which clamps the sheep and is able to roll the ram over into a cradle where



The **Shearing World** trailers are based in South Australia and incorporate the **Peak Hill Industries ShearEzy** upright posture shearing platforms.

the back legs are locked in leg restraints. Because the ram is restrained and our own designed pattern of shearing allows us to shear the rams with big flat areas, the quality of the job is second to none. Furthermore, no sedative is required saving time and money and the rams are not off feed for too long. It's a lot less stress for all involved," Darren said.

The ShearEzy unit is a result of AWI investment 15 years ago in the development of upright posture shearing platforms to provide reduced physical effort and strain during shearing.

"We designed the trailer to suit a lot of areas, be it out in the yards or inside a big shed. But there is no shed required, it's all self-sufficient. We just need a power outlet and a race to be supplied on the property. The trailer folds out so there is plenty of room to move around and for the rams to hop off safely," Darren said.

"The shearing trailer is proving extremely popular for its efficiency and flexibility. We do about 110-120 cross-bred rams a day, on average, and there are two of us on the trailer working at any one time. We do stud rams, sale rams and flock rams and the last couple years we have been getting a lot of work shearing big Dorset and white Suffolk ewes as well.

"We currently have three trailers to keep up with demand and have ordered our fourth machine to help us with what we have booked up for next year. In 2020, we shored more than 26,000 rams and 6,000 ewes so our trailers were very busy for six months of the year." **B**

More information:

3D Shearing: www.3dshearing.com.au,
0427 460 007

Shearing World: www.ramshearing.com.au, 0488 508 837



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AWI-funded in-shed training

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.



'Kellhaven', Walbundrie, NSW



Willalooka, SA



Peel Feedlot, Mardella, WA (with the WA Minister for Agriculture and Food, Alannah MacTiernan, and trainer Kevin Gellatly – see opposite page)



'Carramar', Brewarrina, NSW



'Innisfail', Darraweit Guim, Vic



'Cavan Station', Yass, NSW

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 therefore funds hands-on practical training for shearers and wool handlers in the shed, aimed at increasing their productivity, skills development and professionalism. Training covers a wide range of experience, from learner

to professional shearers and novice to professional wool handlers.

Due to the current shortage of and demand for shearers, there is a concerted effort to run extra novice and improver schools and workshops, funded by AWI and several state governments.

Best practice in shearing sheds results in a high quality wool clip and the health and wellbeing of both professionals and sheep.

Pictured above are a small selection

of the courses run recently across the country. 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. **B**

More information:

To arrange training in your state, phone AWI on 1800 SHEARS or email swt@wool.com.



Kevin passing on his knowledge to a budding shearer at the WA College of Agriculture at Denmark in October last year.

Shear brilliance

Legendary shearer Kevin Gellatly was presented in January with the Australian Wool Industry Medal, an award presented by Wool Industries Australia that “recognises men and women who have made an exceptional and sustained contribution to the Australian wool industry”.

Kevin has worked in the wool industry for more than 50 years and has served as a shearer and wool handler trainer for nearly a quarter of a century, introducing hundreds of young people into the wool industry.

He got his start in the industry when he attended his first shearer training course at the age of 17 with Burt Dwyer in 1965 at Perenjori in the northern agricultural region of WA – and he’s been shearing ever since. Kevin was inducted into the Australian Shearers’ Hall of Fame in 2015.

He has been passing on his vast experience and the tricks of the trade as a trainer for nearly 25 years. During this period Kevin has whittled down the most important qualities needed by young aspiring shearers to two simple traits: “a good work ethic and ears that work”.

Kevin and his partner Amanda Davis, with the support of AWI, run shearer and wool handling training courses in WA throughout the year. These courses are for students of all levels, from complete novices through to professional shearers looking to fine tune their skills.

“The funding of this training by AWI has been very beneficial in helping attract and train new workers into the industry, and improve the value and quality of the wool clip,” Kevin said.

Now in his seventies, Kevin said that while shearing is a hard job and you need to be physically fit, it’s not youth and strength that will make a shearing career successful, it is longevity and keeping injury-free that is key to success.

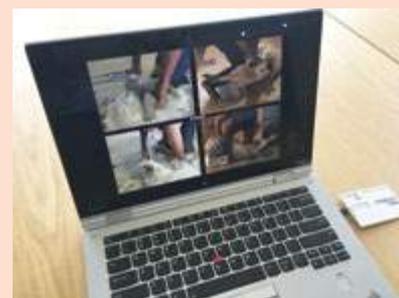
“This comes from actually learning a skill and doing it properly, so you’re not putting any weight on your back but putting more of the weight onto the sheep and footwork,” he said.

“Techniques like knowing how to cradle the sheep with your feet and maneuvering them around so they are comfortable is very important for the animal’s welfare. If the sheep is comfortable then obviously the sheep will be calm, and the flow on effect is that you’ll be able to shear the sheep efficiently.” **B**

Free harvesting videos feature top tips

A series of short training videos for shearers and wool handlers, to promote better techniques and improve clip preparation practices in the industry, is available free from AWI.

The AWI videos cover all aspects of wool harvesting and are a complete reference guide for shearers, wool handlers, woolgrowers, instructors and students working in various areas of wool harvesting.



Packed with tips, hints and practical advice, the videos include advice from experienced shearers, wool handlers and wool classers.

The videos are available to view at www.wool.com/training-resources and on a free USB that can be obtained by calling the AWI Helpline on 1800 070 099. **B**

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Hands-on rural training blossoms at Hay

With the support of AWI, the Hay Inc rural education program in the Hay district of NSW continues to help young people gain hands-on agricultural skills, training and experience.

The Hay Inc rural education program was launched in 2014 in response to concerns about the decline in the traditional jackaroo/jillaroo system in the western Riverina district of NSW and the associated lack of stockmanship and other essential rural skills being handed down to the younger generation.

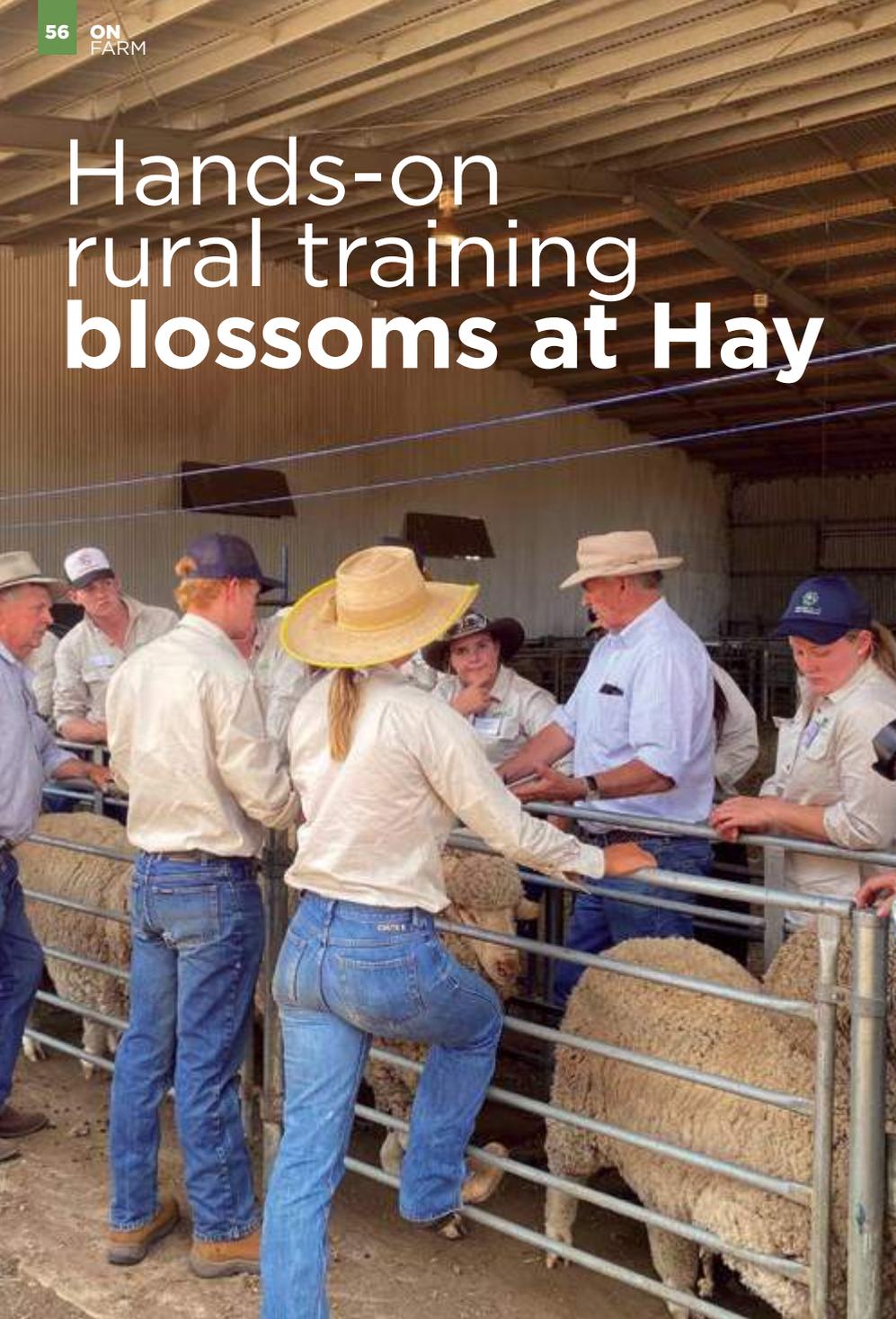
"The initiative was first established in Hay to address the markedly reduced numbers of young people entering or staying in the agriculturally dependent community," said program coordinator Sandra Ireson.

"Through the Hay Inc program, young people are now being given the opportunity to learn the practical agricultural skills needed for them to get jobs on rural properties. It focuses on wool and livestock production and takes place in a practical setting in partnership with local woolgrowers.

"The program is delivered by trainers who have many years of experience on extensive rural properties, covering topics based around the production calendar for sheep, wool production and cattle."

The Hay Inc program is a three-week course, in three blocks of five days' training, usually spread over a nine-month period. However, the final block of the 2020 program was postponed from June until November due to precautions about COVID.

The 2021 program kicked off last month, comprising 16 young people aged 18 to 25 years, with 11 of these young people



The 2020 Hay Inc participants learning sheep classing from AWI's **Stuart Hodgson** at the Rollinson family's '**Goolgumbla**' property at Jerilderie in November 2020.



The 2020 Hay Inc participants and trainers at Michael Field's '**Wyvern Station**' at Carathool in February last year, after receiving training in sheep handling and yard work.



The 2021 Hay Inc participants and trainers at the Gibson family's '**Croidon**' property at Hay in February this year, focusing on on-farm workplace health and safety and first aid.

being employed on working Merino sheep properties in the Hay district this year.

"Once again the Hay Inc program is a very popular program not just for young people but for employers to enable their staff to gain skills and networks. It's great to have more jackaroos and jillaroos in our district and they really enjoy the social networks our program creates," said Hay Inc Chairperson, Richard Cannon.

The first week of training included work health and safety, first aid, pre-employment paperwork tips, and quad and motor bikes maintenance. It also included two days of sheep handling and yard work and sheep animal health at the TA Field Estates' 'Wyvern' property at Carrathool.

The remaining two training blocks will include a variety of hands-on education in areas including working dog training, wool harvesting and wool shed management, fence construction and maintenance, sheep nutrition and Merino sheep classing.

AWI has supported the Hay Inc program each year since its inception.

"Our funding in programs like this aims to help improve the engagement of young people interested in the wool industry, thereby developing and retaining the skills the wool industry needs to be innovative in response to new challenges," said AWI CEO Stuart McCullough. **B**



More information
www.hayinc.com.au
Hear more about Hay Inc
in Episode 122 of AWI's

The Yarn podcast available at
www.wool.com/podcast

Manual can help replicate the Hay Inc success

A 20-page manual that shows how the Hay community came together to establish the Hay Inc Rural Education Program was developed and issued in 2019 by Sandra Ireson. It provides a model that can be adapted and implemented in other rural communities across Australia.

Sandra, who farms near Booligal in the Riverina of western NSW with husband Matt and their children, was awarded the 2017 NSW-ACT AgriFutures Rural Women's Award, winning a \$10,000 bursary which she used to set up Engage Ag, the project that has developed the adaptable model of the Hay Inc program.

The Hay Inc program has delivered substantial benefits to the Hay region and Sandra says the development of an adaptable model aims to bring similar positive benefits to other rural communities across Australia.

"In Hay NSW, we 'built' a school using the knowledge and experience of local landholders and business folk who volunteered their time to teach young people how to be jackaroos and jillaroos," Sandra said. "The Engage Ag manual shows how we did it; your rural community can do it too."

The Engage Ag manual explains how to go about setting up a course similar to Hay Inc, including the best ways to obtain volunteers, engage with agencies and seek funding. **B**

More information:

The manual is available on the Hay Inc website www.hayinc.com.au (click the Engage Ag logo in the top-right of the home-page screen) or contact Sandra Ireson directly at engageag1@gmail.com or on 0439 938 119.

The **Engage Ag manual** can help other rural communities across Australia replicate the success of the Hay Inc rural education program. The manual is available on the Hay Inc website.



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Market Intelligence

Wool price recovery

Wool sales resumed the 2021 New Year with good gains. Historically, January can be a notoriously difficult and unpredictable month for wool prices and high volumes on offer, so such a strong start to the calendar year, given the very difficult 10 months prior, is encouraging.

Since the start of 2021, superfine Merino wool finer than 18 micron has been the prime target of buyers and gains of 220 to 280ac have been made. Broader than 18 micron have advanced 60 to 120ac. The large volumes on offer throughout January and unfavourable forex rates failed to dampen the almost exclusively Chinese appetite for purchasing but perhaps those factors did conspire against the posting of even better advances?

Of most significance is improvement in the US dollar levels. An estimated 75% of Australian wool purchases are transacted from the USD conversion to AUD, hence the standard referral to USD prices as more indicative of demand and real values.

Since the start of this season, the USD price can be described as escalating as the AUD price climbed in comparison. In USD, the EMI has gained 205usc or 26.5% to be at 978usc/clean kg after the first sale in February. The AUD EMI has also shown great improvement, but that appreciation is lesser in magnitude at 15.1% or 169ac to 1285ac/clean kg.

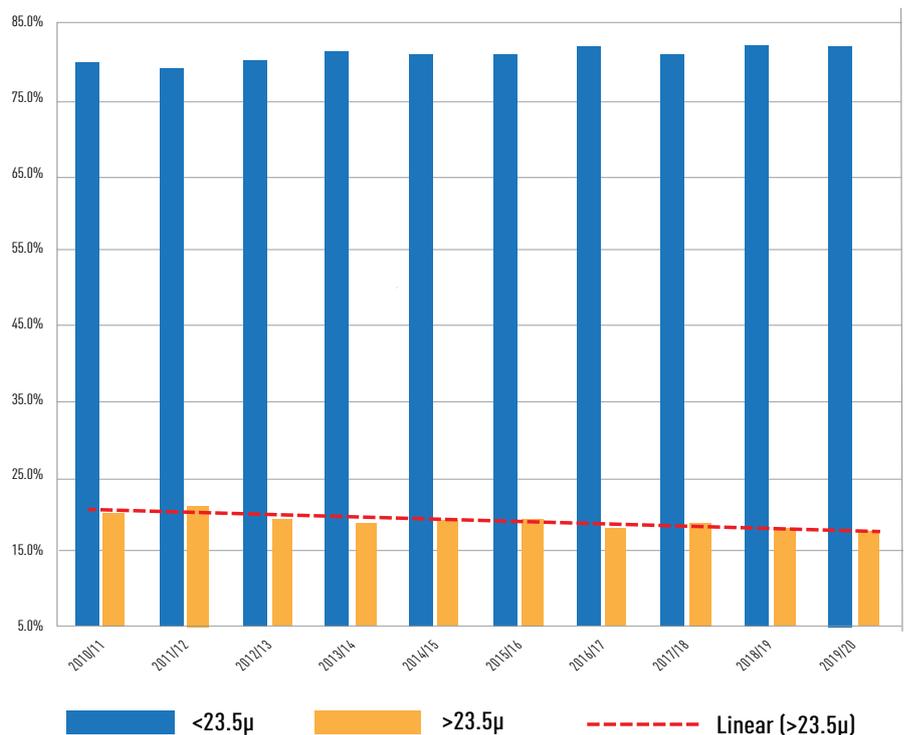


Merino microns continue to dominate

During the past decade, the 2019/20 season has seen the lowest percentage of the clip being made up of the 'crossbred' microns. If we use the methodology of drawing a watershed line through 23.5 micron and classify all the wools finer than that as Merino, we evidence a measurable decline – not growth – in broader wools as a percentage of the shrinking clip. The analysis of wool being tested has seen a dip in crossbred wool type qualities to just 17.9% of the clip.

Significant "talk" surrounding the breeding future of the wool industry has been focused on anecdotal moves away from self-replacing Merino wool operations to a more dual purpose or full-on meat sheep operation. Whilst failing to be realised at this stage, joining has just begun and sufficient information has been received to suggest a swing to a broader wool may indeed eventuate in the next 12 to 24 months. The sire of choice this season, where possible, is trending towards a meat breed.

% OF CLIP SPLIT BY MICRON



nice report

Move towards higher value finer microns continues

The clear trend of the past decade within the Merino micron wool sector has been the continuation of the clip fining up. Bearing in mind the 20% loss of total wool production, the ultrafine (finer than 16.5 micron) production has moved from 1.9% to 6.6% of the clip while the superfine sector (16.6 to 18.5 micron) shifted up to a 36.1% production share from the 19.9% level of ten years prior.

The fine wool (18.6 to 20.5 micron) has remained incredibly tight in its Australian wool production share range and currently sits at 42.2% of the quality spectrum, which is highly comparable to the 43.8% of the 2010/11 season.

The biggest production share loss has been the medium/strong types (20.5 to 23.5 micron) which is now just 15.1% of the Merino micron offering after being 34.3% of the entire Merino micron selection ten seasons ago. Seasonal conditions and recent breeding directions should see an improvement upcoming.

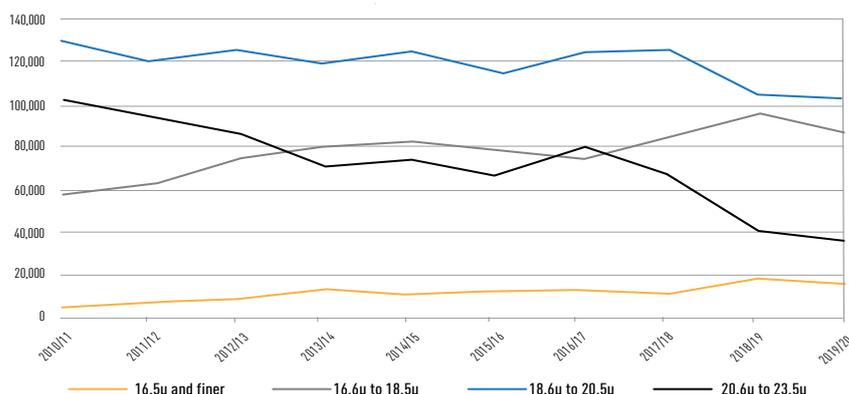
Movements in average micron, yield and VM

With the drought breaking across much of affected wool-growing areas, the micron average of just 0.2 micron broader is totally unexpected. The seasonal break which occurred with drought breaking rains February 2020 onwards has kept most wools on offer well nourished, but micron readings remain on the tender fine side. Anecdotally, woolgrowers and brokers are now reporting a 'blowing' of microns while the wool auctions are also starting to see a much broader clip coming onto the market, particularly since early December. It is anticipated that the next six months of data will produce a broader mean fibre diameter and move towards the 21 micron mark.

A positive is the 3.4% improvement in clean weight which is a result of the dry combing yield improvement. Yields are expected to continue to 'average up' during the season and a figure close to the pre-drought average of 64.6% should be achievable.

At the end January 2021, the VM (vegetable matter) levels are still low at 'drought averages'. Most of the VM produced by good rain over the past six months is yet to fully dry off and get into the wool. This will change rapidly from wools tested February 2021 onward and VM levels will begin to be problematical for buyers. An effect on processors may occur, but top makers are already showing a penchant for these types, so no real downside due to any processing concerns is expected, given the economic, political, and trading environment remains stable. **B**

AUSTRALIAN MERINO MICRON CLIP TREND - IN GREASY TONNES



MOVEMENTS IN AVERAGE MICRON, YIELD AND VM

AUSTRALIAN CLIP AVERAGE	MICRON	DRY YIELD	VM
2010/11	21.5	64.9%	2.3%
2011/12	21.5	65.5%	2.5%
2012/13	21.2	65.1%	2.2%
2013/14	20.9	64.9%	2.0%
2014/15	21.0	64.9%	1.9%
2015/16	21.0	64.4%	2.2%
2016/17	21.0	65.1%	2.3%
2017/18	21.0	64.6%	2.5%
2018/19	20.5	63.1%	2.1%
2019/20	20.5	62.2%	1.7%
2020/21 (JUL-JAN)	20.7	64.5%	1.7%

Average monthly EMI comparison

The chart opposite provides a snapshot of how the AWEX monthly Eastern Market Indicator (EMI) and a range of microns have performed for the past three months (November 2020 – January 2021) in Australian dollar terms compared with the previous five years November 2015 to October 2020 (circles) and the decade previous to that, November 2005 – October 2015 (squares).

Although the coronavirus pandemic has continued to negatively impact the global economy during the past three-month period, there has been a definite improvement in the EMI compared to the previous three-month period.

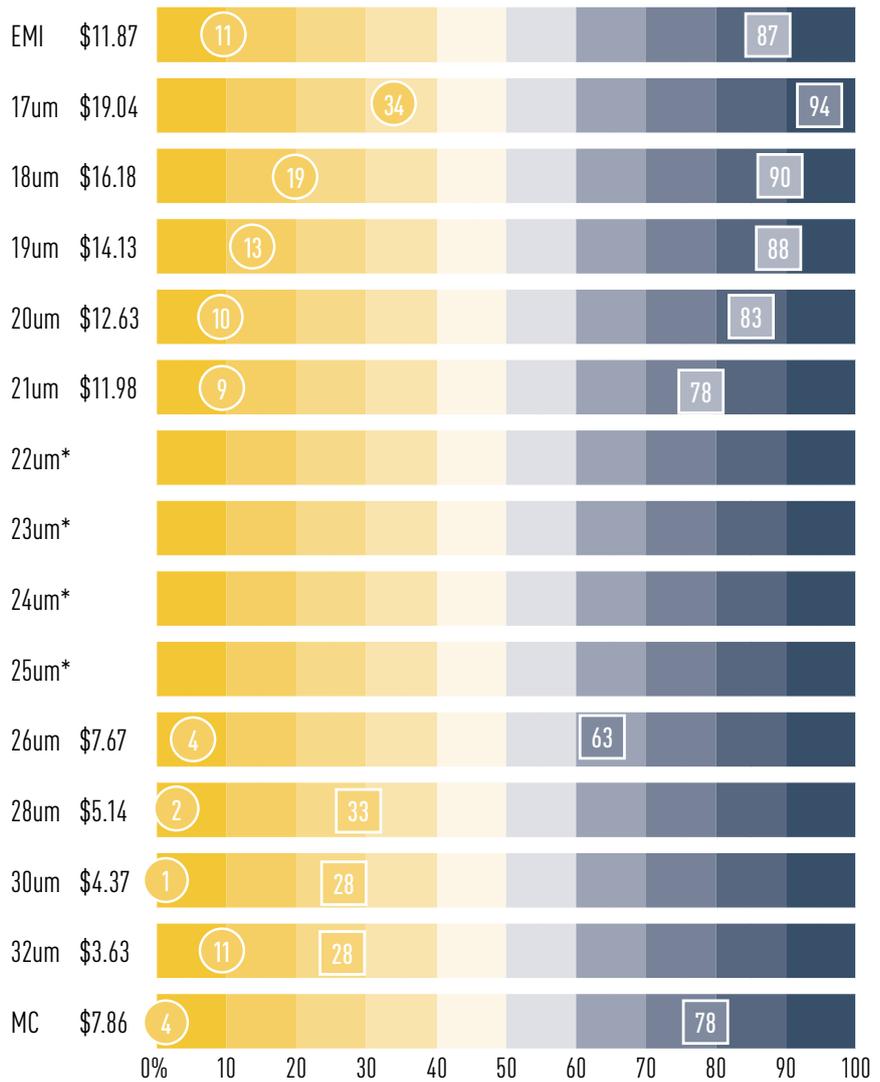
For the past three months, the monthly EMI averaged at \$11.87 which is a \$1.87 rise from the average for the previous three months, and is tracking at the 11th percentile against the previous five-year monthly EMI. This means that in the previous five years the monthly EMI has recorded a lower price than the current \$11.87 (November 2020 – January 2021) for only 11% of the time.

While the EMI is tracking at the 11th percentile over the previous five years, it is tracking at the 87th percentile when compared to the decade November 2005 – October 2015. This means the current EMI of \$11.87 (November 2020 – January 2021) is higher now than it was for 87% that decade.

18 micron averaged at a monthly value of \$16.18 (19th percentile for the previous five years and 90th percentile for the decade before that), 21 micron averaged at \$11.98 (9th percentile for the previous five years but 78th percentile for the decade before that), and 28 micron averaged at \$5.14 (2nd percentile for the previous five years and 33rd percentile for the decade before that).

For the past three months, Merino Cardings averaged at \$7.86, operating at the 4th percentile for the previous five years and at the 78th percentile for the decade before that. **B**

AVERAGE MONTHLY EMI FOR NOVEMBER 2020 – JANUARY 2021 COMPARED WITH
 ● PREVIOUS 5 YEARS NOVEMBER 2015 – OCTOBER 2020
 ■ THE DECADE NOVEMBER 2005 – OCTOBER 2015



*insufficient data

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 now 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. **B**

More information:
www.wool.com/marketintel

Promote your business on WoolQ

On WoolQ, you can create a rich profile of your business that showcases the compelling provenance and attributes of your unique product to an active global audience.

Consumers are increasingly interested in the source and eco-credentials of the products they are buying (see page 8). Australian wool is a beautiful, premium and renewable fibre grown by sheep grazing free-range in natural landscapes, so it is perfectly positioned to satisfy this growing market trend.

Wool buyers are looking in particular for growers that have rich and powerful provenance stories that they can use when marketing their brands. Buyers like the WoolQ industry directory because they don't have to spend hours searching Google for different grower websites. They have instant access to sophisticated search functionality to find exactly the woolgrowers that suit the type of wool, region and quality scheme they are looking for.

WoolQ is the place to showcase your provenance story because it's the only place where you can instantly expand your opportunities and have an immediate connection to buyers. In your business profile, you can provide a rich description, logo, images and video to bring your wool-growing brand to life and deliver a really compelling story.

The WoolQ industry directory currently houses more than 700 business profiles of woolgrowers, classers, brokers and buyers.

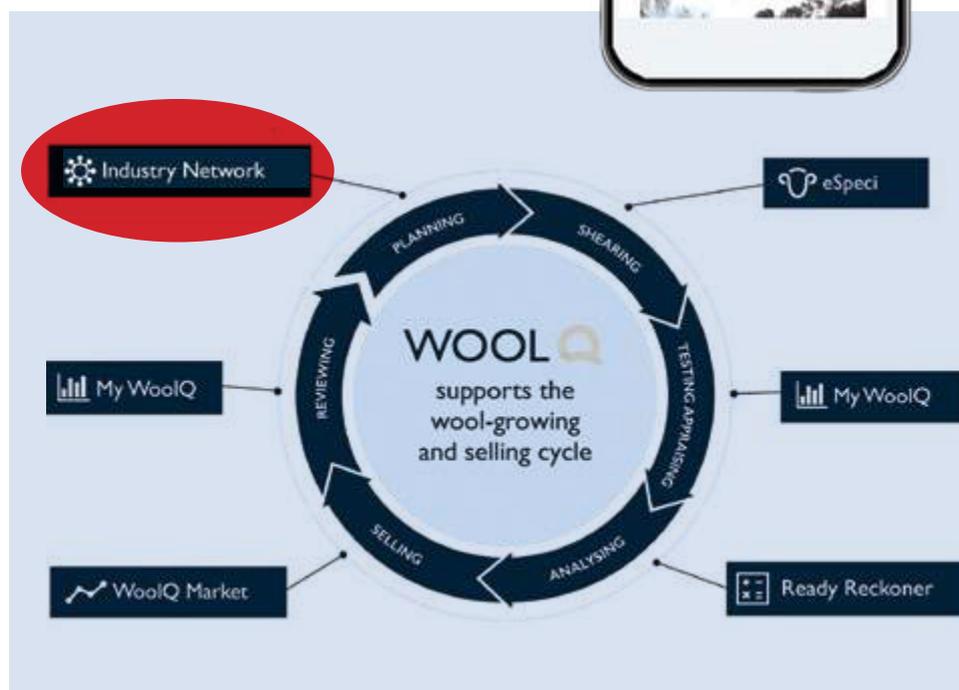
How to create a business profile on WoolQ

To create a profile, you must register as a user of WoolQ at www.woolq.com. Registering takes just 30 seconds to complete.

Woolgrowers can then set up a profile for their business by clicking the avatar in the top-right of the screen and then selecting 'Business Profile'. Classers, brokers and buyers are also able to set up a business profile here. Although you can use WoolQ on computer, tablet or smartphone device, it is best to create a business profile using a desktop computer or laptop, and you will need an internet connection for the process.

Then simply follow the prompts on your dashboard to complete each part of the profile. Some parts of the profile are optional

The profile of your business on WoolQ can also include images and video to deliver a really compelling story.



The **Industry Network** section on WoolQ contains a **directory** of woolgrowers, classers, brokers and buyers. By building a rich profile for your business on WoolQ, you can showcase your unique product to a global audience.

to complete, so you can tailor it to what suits your business circumstances.

However, a rich profile should include as much information as possible; this is your chance to stand out and show the industry who you are. A rich business profile should include:

- **A complete description section** to ensure other WoolQ members can read about your business and want to connect with you if need be. Remember, buyers are increasingly interested in the eco-credentials and animal welfare aspects of your business, as well as the specifications and quality of the fibre itself.
- **High quality images** that speak to your prime business function and can tell your story.
- **As many contact details as you have** – if other WoolQ users can connect with you easily, it may open up new business ventures for you.

To really boost your profile, you can also include:

- **A brand logo** – it makes you distinct and professional.
- **A brand video** – this will really bring your brand to life.

You can add other members of your team – such as your business partner, farm manager and classer – as users, so they can view/edit your business profile. **B**

More information:

For information about how to build a business profile, head to www.woolq.com/Industry-Directory where there is a simple-to-follow 'Create a woolgrower business profile' video. Once you have registered with WoolQ, you can access other useful resources including PDF 'cheat sheets' that will help you to set up a business profile. Simply click on 'WoolQ Support' in the menu bar and then click on 'Education'.



WIN!!!

If you submit 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.



A YOUNG FAN OF BEYOND THE BALE

Three-year-old **George Pratt** from **Archdale** in **Victoria** loves reading about sheep and wool while he eats his breakfast! We hope you love seeing yourself in this edition, George!



STARTING THEM YOUNG

Two-year-old and sixth generation sheep farmer **Jack Guthrie** of 'Warrawidgee' at **Pittong** in the Western District of **Victoria** keeping an eye on the penning up and Merino shearing.



HAVING A TALK

Toni Ward of Double Take Photographics took this photo at **Candelo** in south-eastern **NSW**, which she titled "Joe & Geoff, havin' a talk about it". We love the photo – thanks for tagging the photo #beyondthebale on Instagram, Toni (@toni_eye).



HOT SUMMER NIGHT

Gringegalgon Merinos (@gringegalgon) at **Vasey** in the Western District of **Victoria** tagged this beauty of a photo #beyondthebale on Instagram in January, with the caption: "It very quickly feels like summer again, with hot days, and smoky nights". We hope you got some rain to clear the air!



SHEARING GENERATIONS

Linda Mauger from the South West of WA sent in this photo of her husband Ross and their children Danielle and Scott who have followed in their dad's footsteps and become shearers. While Ross has semi-retired, Scott and Danielle shear in the same team around the Boyup Brook district.



THE GREEN, GREEN GRASS OF HOME

Michael Bauman of 'Caemar', 50km west of Stanthorpe in Queensland, took this great photo during mustering for shearing in April last year when there was plenty of green grass after two years of none.



THE LAST SHEARING OF 2020

The tail end of a mob of ewes and lambs coming in from the paddock for the final shearing of 2020 at a Macclesfield property grazed by Luke Fitzgerald of 'Brookside Farms' in the Bugle Ranges on the Adelaide Hills of South Australia.



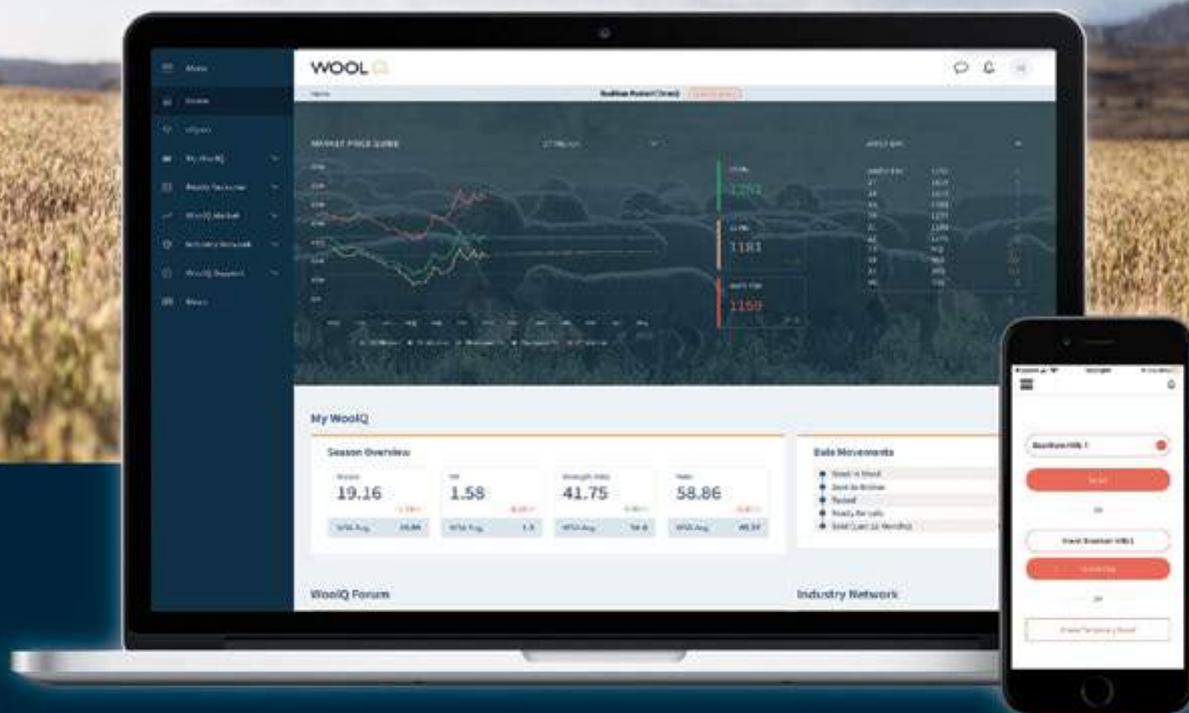
ROUNDING UP THE RAMS

Six-year-old Peter Ohlmeyer on his pony Astro, helping to bring in the Merino rams at Waikerie in the Riverland of South Australia. His mother Leanne says they work as a family wherever possible to round up their sheep up, using motor bikes, bicycles, utes and horses.

LOVING THE FARM

The three children of Nicole and Adam Kelly of 'Belar Glen' at Linga in the Mallee of Victoria all love the farm and the shearing shed. Here is 11-year-old Izabella having a go at shearing, she did some of the long blows and last side.

WOOLQ



WHAT IS WOOLQ?

WoolQ is a platform to store data, review wool production, value wool and provide selling choices to woolgrowers, their agents and other industry professionals in a single platform. The key tools of the platform are:

WoolQ Network

A wool industry directory. Allowing woolgrowers to promote their businesses, develop partnerships and learn of new trends and developments.

WoolQ Ready Reckoner

Value your clip. Using the latest market results' real-time pricing to give woolgrowers and brokers an indicative price of wool ahead of sale.

My WoolQ & WoolQ eSpeci

A repository for all clip production information. Allowing woolgrowers to collect and store clip data including sales and test results from multiple brands.

WoolQ Market

Built to complement open-cry auction, it delivers an online alternative venue for the selling of wool. Sell through auction or the set price bulletin board.

[Register](#) at www.woolq.com

We can help you set up your WoolQ account. Call us on 1800 070 099 or email info@woolq.com.