Australian Wool Innovation Limited

AWI BUSINESS UNIT UPDATE

MAY 2023

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Australian Wool Innovation (AWI) is the not-for-profit industry owned Research and Development Corporation (RDC) working throughout the worldwide wool supply chain on behalf of Australian woolgrowers to increase their long-term profitability.

Internationally we are better known as the Woolmark Company with 16 offices globally in key wool markets. The Woolmark Company focuses on fostering talent, developing new innovations, and helping businesses realise the benefits of Australian Merino wool. It is one of the world's most recognised brands.

AWI's stakeholders range from growers here in Australia to mills in Europe, China plus global fashion brands. We leverage that extensive network to gather important insights that we share with our primary stakeholder, the woolgrowers of Australia.

AWI directly communicates regularly with growers. This ranges from wool market reports posted online and sent out via text message, to our quarterly magazine Beyond the Bale (hardcopy & online). In addition we provide a monthly e-newsletter and have a strong presence across social media including Facebook, Twitter, instagram and YouTube. AWI has recently launched a Woolgrower App and regularly conducts Webinars.

This quarterly business unit update is designed to provide key stakeholders with a snapshot of AWI business units and insights into key projects.

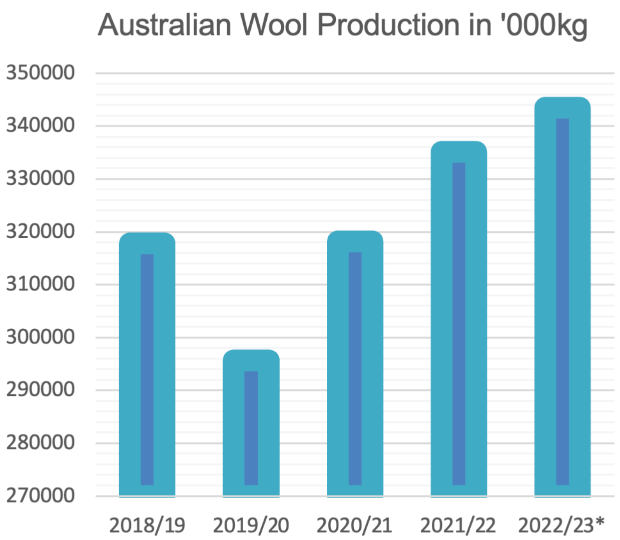
MARKET ANALYTICS

PRODUCTION

TAs at the start of March 2023, the 2022/23 season has seen an increase in weight tested by AWTA of **2.3%** compared with the same period July 2022 to February 2023. AWTA Ltd has tested **221.5 mkg** (million kilograms) this season compared with 216.5 mkg for the equivalent period last season.

Following on from the very much outlier increase of almost 24% year on year increase in wool flowing through testing in January 2023 compared to the January 2022 period, there was a somewhat abrupt ending to that spike in the most recent February 2023 figures witnessed by the relatively modest 2.3% increase.

With just four months of testing left for the season, for the AWPFC forecast of a 5.0% increase for this current season to hit 340mkg, there needs to be an additional 118.5mkg tested. This requires each of the last four months to have an average of **29.63mkg** against the current seasons monthly average of 27.69mkg, or 7.9% more than the average every month March to June.



For context, the March to June period of the 2021/22 season saw 118.62mkg tested at an average of 29.65mkg, bolstered by the seasonal high tested weight of 37.78mkg in March 2022. So, if seasonal trends hold, the AWPFC target should be easily met and surpassed.

It is currently an internal estimate by AWI that tested wool for the season 2022/23 should hit within the range of 343.08mkg rising to the top end est. of 351.83mkg.

The past four years has seen a steady recovery in wool production with a 16.2% growth rate achieved if the 2022/23 forecast is met, a 4.05% annualized growth

NSW remains the dominant wool growing state and contributed 37.6% to the national production. Queensland continues to lift their wool production in the 2022/23 season and have seen 18.9% more wool tested. This gain is coming off a very low production base and as at the end of February makes up just 3% of the clip. All other states remain within +/- 2% of last year's production levels.

Almost 94% of the national wool production gain of 5mkg of weight tested through the AWTA has come courtesy of the current 6.0% NSW rise of 4.69mkg.

AWTA Key test data by WSA end February 2023					
in '000 kg		2022/23	2021/22	kgs diff.	% diff.
NSW	37.6%	83,307	78,622	4,685	6.0%
VIC	22.3%	49,326	50,088	-762	-1.5%
QLD	3.0%	6,662	5,603	1,059	18.9%
SA	14.5%	32,124	32,184	-60	-0.2%
WA	19.3%	42,652	42,436	216	0.5%
TAS	3.3%	7,402	7,531	-129	-1.7%
TOTAL		221,473	216,464	5,009	2.3%

AWEX AUCTION STATISTICS

At auction, by the end of week 35 (03/03/2023) AWEX reports that for the 2022/23 selling season there had been:

- offered 1,187,120 bales (approx. 212.5mkg greasy) at auction this season compared to the 1,171,797 bales (approx. 209.7mkg) offered at the same point of last year. That is 15,323 bales (approx. 2.7mkg) or 1.3% more wool offered or an average of 528 additional bales offered each sale week.
- sold 1,044,389 bales (approx. 187mkg greasy) at auction this season compared to the 1,016,817 bales (approx. 182mkg) sold at the same point of last year. That is 27,572 bales (approx. 4.9mkg) more or 2.7% more wool sold or an average of 951 bales sold per sale week.

MARKET ANALYTICS

- total raw wool value sold at auction of $1.625 billion which is $48 million less than the $1.673 billion sold by the same point in time last year.
- clearance rates this season of 88.0% of all wool offered compared to the 86.8% cleared over the same period of the 2021/22 season up until the end of week 35. This is a 1.38% improvement in sentiment to sell wool by growers, even though the overall market value is slightly less than last year.

WOOL PRICE

Since the commencement of the 2022/23 season, the Eastern Market Indicator (EMI) has depreciated from 1407ac/clean kg to conclude week 35 (3rd March 2023) at **1368ac/clean kg**. This is a seasonal loss of 39ac or 2.8% in Australian dollar terms. The 2022/23 season has an EMI average of 1315ac.

The USD EMI has fallen from 955usc/clean kg at the start of the season in July to be **923usc/clean kg** by the end of week 35. This is a seasonal depreciation of 3.4% or 32usc in US dollar terms, underperforming the Australian dollar values.

The Western Market Indicator (WMI) provides a clearer picture for Merino wool producers. That centre is selling almost entirely Merino, with 97.6% of the volume tested finer than 23.6micron in that state. Much of the eastern state indicator has been adversely affected by the decline in broader wool values a negative force that does not apply to the WMI.

The season commenced with the WMI at 1486ac and as at the end of week 35, that indicator improved by 2.6% or 38ac to **1524ac/clean kg**. In USD terms, the WMI commenced at 1008usc and ended week 35 at **1028usc/clean kg**. This is a 20usc or 2% uplift in the US Dollar value of largely Merino wools.

For the season to date, all three major indicators are showing positive linear trendlines. The data is corelating with the anecdotal reports of generally improving business conditions from most global consumer markets by AWI/TWC regional managers and staff.

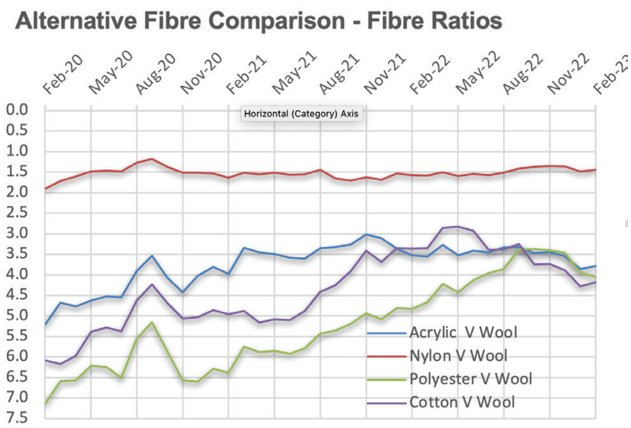
AUCTION AND SUPPLY CHAIN

Business ethics through the pipeline has been relatively good since the market claims post August 2022. After the market fell, dubious quality claims were received from China and India through September and October. Settlement amounts were mostly light and easily navigated and negotiated down, as both sides of the contract recognized the nature of the claims.

Chinese top makers are continuing to report of the difficulty in disposing of lower end tops, with the China domestic market still subdued. A larger than normal percentage of their production output is flowing to Europe and the sub-continent which requires a better quality raw material to produce the higher spec Euro top. The lack of enough scouring and top making in Europe to satisfy current demand, those manufacturers are enjoying profitable times from those exports. Direct buying activity from Australia by Redsun and Tianyu accounts for almost 15% of all wool sold at auction, and forward contracts privately booked would be another few percent.

ALTERNATIVE FIBRE COMPARISON

Unfortunately, the wool price has continued to deteriorate in value in comparison to synthetic fibres and cotton for many years. From the commencement of Covid in February 2020, wool ratios have moved from being 1.9 times better price than the most valuable of the chemical fibres, Nylon, to being just 1.44 times in March 2023, a 24.2% ratio adjustment.

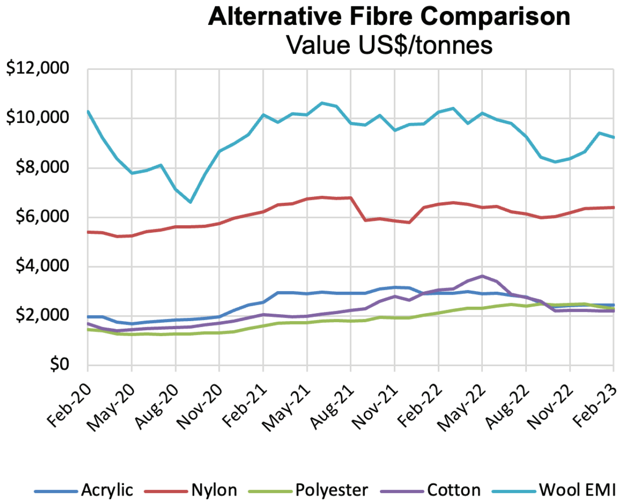


MARKET ANALYTICS

Acrylic has gone from 5.21 multiple of the value of wool to now 3.79 - a 27.3% diff.

The polyester fibre has gained the most ground on wool and the ratio shifted from 7.14 to 4.05 over the most recent three year period – a 43.2% advantage, whilst the wool/cotton ratio went from 6.09 in February 2020 to 4.18 in March 2023 a 31.4% change.

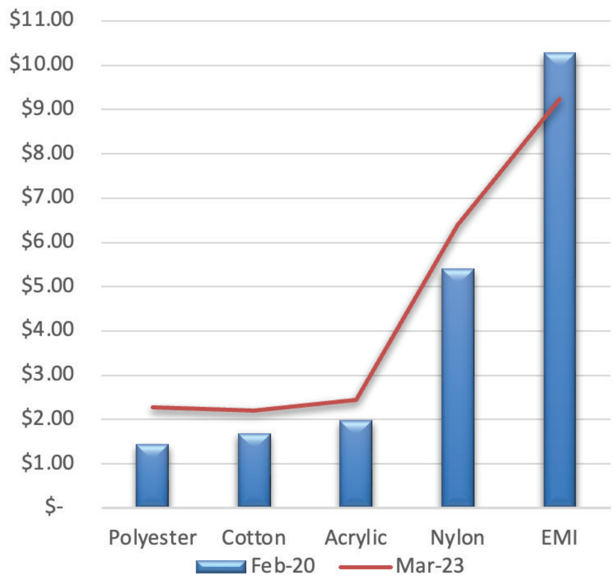
The most recent data is trending towards better ratio outcomes for wool. The ratio comparisons appear to have bottomed out in the September to November 2022 period and recent figures are looking somewhat better for wool ratios against the cheaper alternatives. It is only slight in positive movement and the data is just a few months, but it is starting to show a measurable trend, albeit minimal.

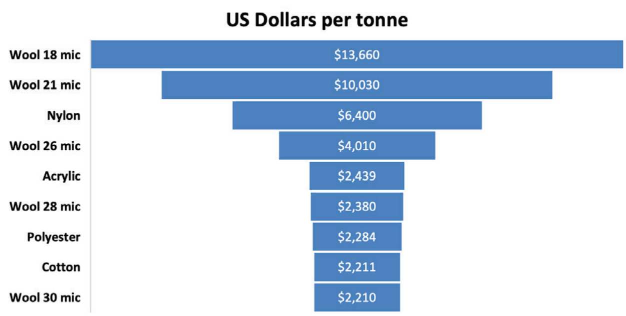


In measuring raw values of wool against the main alternative fibres, since the outbreak of covid impacted all global markets, wool is again very much underperforming in all datasets. The EMI has depreciated in US dollars by US$1.02 or down 9.9% from US$10.27 to US$9.25. Conversely our synthetic and cotton counterparts have all gained in raw value.

ALTERNATIVE FIBRE COMPARISON

- Over the same three year period that wool has relatively floundered,
- Cotton has advanced its value by **31%**, from US$1.69 to US$2.21.
- Polyester is **58.7%** higher from US$1.44 to US$2.28
- Nylon is 1usd dearer or a gain of **18.5%** at US$6.40
- Acrylic has appreciated **23.8%** from US$1.97 to US$2.44
- It is noted well that these comparisons are against the EMI in USD which includes the depressive factor of the broader wools.





MARKET ANALYTICS

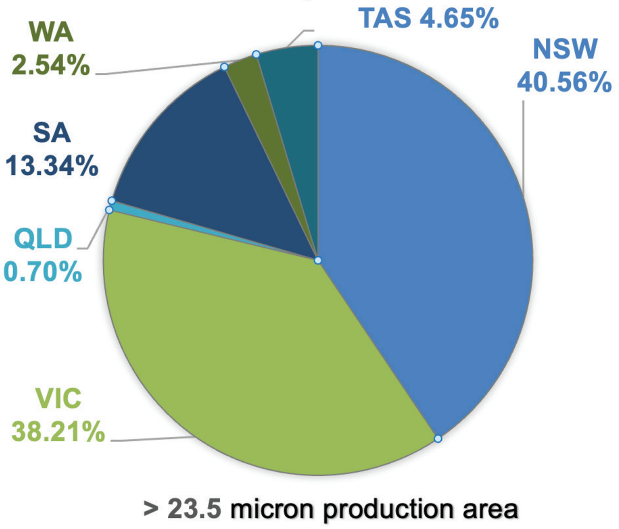
FOCUS ON THE BROADER WOOL MARKET

The AWTA key test data shows that at the start of March 2023, 19.1% of all wool tested in the 2022/23 season was broader than 23.5micron. This is a fast growing increase in the percentage of wools being produced in the crossbred area of the micron profile of the Australian wool clip and a substantial volume compared to just four months ago when the percentage was as low as 14% by weight of all wool tested. The data is now very much matching the ongoing rhetoric of a shift towards crossbred wool type for a protein/meat based supply priority.

NSW is the largest growing state of wool that is greater than 23.5micron, but very closely followed by Victoria. The South Australian coastal belt regions produce some handy volumes, but production is negligible in all other states.

he crossbred wool type that is now being produced across a large volume of the greater than 23.5 micron sector is very much inferior to what Australia used to produce prior to the introduction of the composite breeds.

This composite type is becoming an increasingly popular sheep type, particularly in NSW and Victoria where almost 80% of the broader than 23.5micron wool type segment is produced.

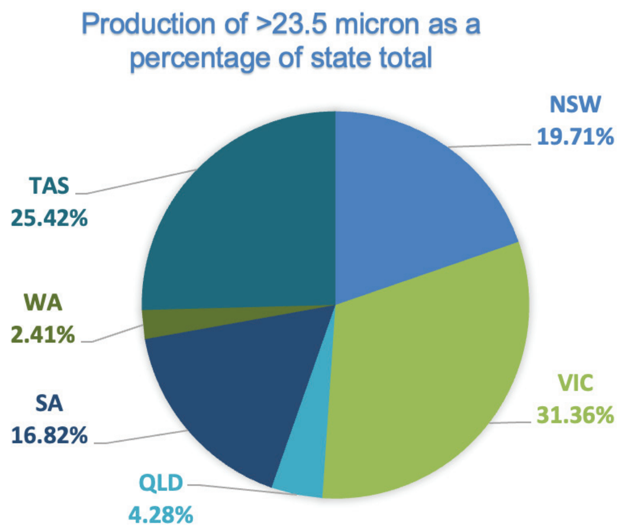


The wool characteristics of a growing proportion of the modern composite crossbred wool type is struggling to find a use in the textile world.

The "wool" being shorn off these composite types is unique and akin to more of a hair fibre. It vaguely resembles an overlong downs type but containing a high propensity of kemp, medullated and dark fibres and lacking the sponginess or air trapping qualities required for bedding uses that our proper downs wools provide.

Composite wool is generally too long to be considered for quilt/doona manufacturing and contains far too many straight and harsh fibres that can punch through the cotton/cotton-polyester cover.

Just a few years back, Australia was renowned for producing a long lustrous exceptionally white crossbred wool, suitable for many uses but mainly in the fashion coats markets. Critically, it was a kemp free product easily dyed and a soft handle with a fibre diameter of 25 to 30 micron.

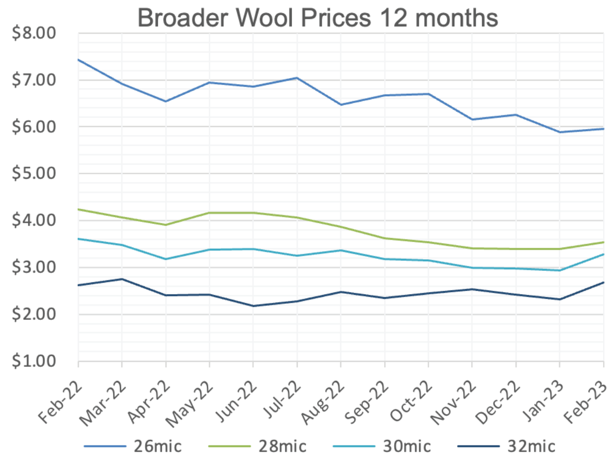


Much of this was produced from the traditional first cross ewe (Merino ewe/Border Leicester ram). Even the second cross lamb wool product was generally white, kemp free and still retained a degree of softness to the touch.

A premium price above other producer nations was regularly paid by manufacturers for these qualities.

MARKET ANALYTICS

Whilst Australia does retain a good portion of these better crossbred wool types, market forces have impacted heavily on their values. With many inferior lots are available at a much cheaper price, so some extravagant blending takes place by buyers and overseas manufacturers which pulls all prices back. No longer does Australia have that quality premium, particularly for wools broader than 30 microns.



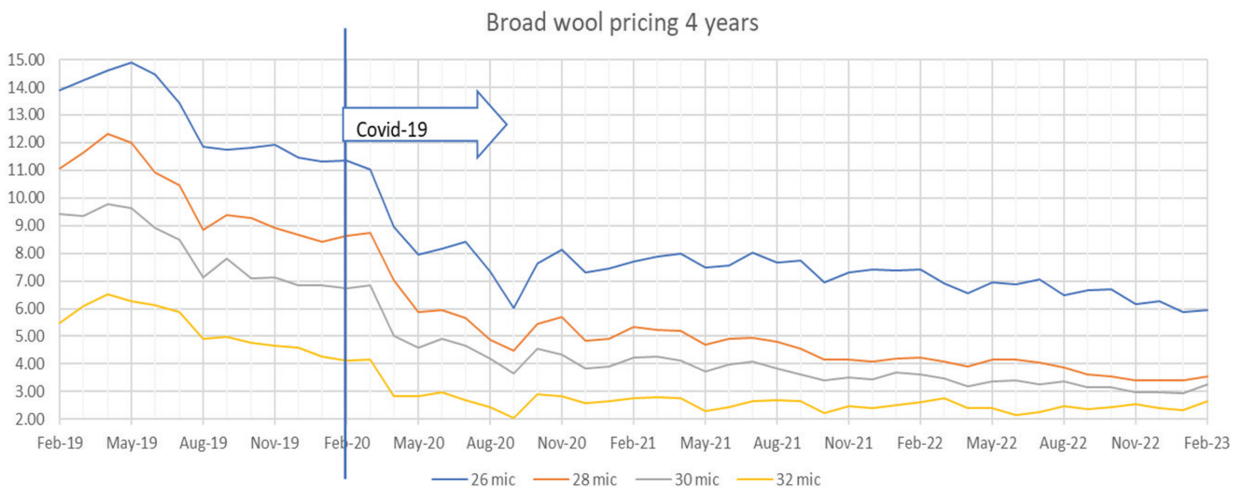
All crossbred wool price indicators are sitting at very low historical levels. Prices at the beginning of March sit within the 8 to 24 percentile bands when comparing an average of the last three months values against the last five years average prices. The past 12 months has seen a little price stability starting to appear, but this stability is at very low values, with quite often the cost of harvesting and selling preventing any margin or profit from the wool portion of the sheep meat and lamb enterprise.

After a period of a few years, growers of these wools had held wool back hoping for a better price to appear, but holding costs and no light at the end of the tunnel has seen a change in sentiment in regard to holding wool, and a much higher percentage is being sold rather than passed in than the previous years.

There is still a very high volume of stocks held globally of these broader wools. This exists all the way down the pipeline from yarn back to greasy held in store and even on farm, where possible, to avoid costs of commercial warehousing. The largest global producer of crossbred wools New Zealand has an annual production well over 100mkg compared to Australia's 65mkg and the growers there have generally been resisting the low prices, but a 15% rise a few months back has seen a flurry of sales being accepted.

When looking at comparison to alternative fibres to wool traditionally used in apparel and clothing markets, it is an interesting, yet untested and untried comparison to see 28micron wool sitting on similar values to polyester and 30micron wool neck to neck with cotton. What this means is still under analysis, but what we do know is that growers of the broader wools are unhappy with their prices, yet when compared to a kg of cotton, perhaps that is an end use market whereby some replacement of those products with wool can assist recovery, and similarly with polyester fibre.

Within Australia, the crossbred wool type is over 19% of production, but brings in under 5% of the total value of the clip.



ON FARM RESEARCH

Research, development and extension within the program areas of Sheep Health and Welfare, Vertebrate Pests, Reproduction and Nutrition, Genetics and Agri-technology.

Grower Extension: Ramping up the delivery of grower extension on flystrike management and breeding for flystrike resistance to reduce risk. 17 SimpliFly workshops held by end 2022. ClassiFly piloting of the workshop with woolgrowers has been completed.Train the Trainer workshops are underway.

Training growers and agriculture advisors in moving to a non-mulesed enterprise. This focus addresses the Wool 2030 target of growers having the confidence and tools to manage flystrike without mulesing. StrateFly and AmpliFly resources are under development.

Flystrike vaccine development: In vivo sheep trials are complete and show efficacy below 25%.

ParaBoss website and online resources are more accessible to growers. An updated website has been Launched and a one-day WormBoss workshop is being piloted.

Sheep Sustainability Framework (SSF) online progress reporting dashboard development. The inaugural SSF industry forum was held in March and the FY 23 annual report to be launched in May; dashboard in development.

Flystrike Management: Commissioned additional research in flystrike management tools targeting the viability of the fly including chemical resistance. Sterile Insect Technique contract under negotiation and Chemical Resistance Modelling project underway.

Vertebrate pest/wild dog: Control Provision of vertebrate pest/wild dog control coordination cofunded with other sectors in states or regions where coordination is newly, poorly or inadequately established. National Wild Dog Management Coordinator and, North East NSW, Victorian and SA Coordinators funded.

Support for national organisation wide pest management initiatives which address issues facing the wool and sheep industry: National Wild Dog Action Plan supported.

Provide wool industry appropriate support to ongoing integrated rabbit control: Centre for Invasive Species Solutions delay contracting.

Hard seeded legumes: Improve the understanding of the use of hard seeded legumes in low rainfall environments to give woolgrowers greater options to manage a variable climate:- LegumeN Pty Ltd have been contracted to deliver the 8 factsheets on hard-seeded legumes. These are being finalised and will be released this calendar year.

Australian Pastures Genebank: Investments in pasture and forage plant genetic resources to enable researchers and plant breeders to better access and utilise germplasm for the benefit of the wool industry. AWI continues to fund the Australian Pastures Genebank.

Ewe condition score: Release updated information to industry regarding ewe condition score (CS) targets for joining and the value of feeding to improve CS. Analysis of data completed. Awaiting final report with extension of findings to follow in the first half of 2023.

Pregnancy scanning: Updated pregnancy scanning materials released to industry which promote pregnancy scanning for multiples and preferentially manage ewes based on pregnancy scanning.

Final report published showing $5.75/ewe profit from scanning. A factsheet/business case is drafted for publication by the end of the financial year.

Pasture species: Tools made available to growers to assist them in choosing pasture species suited to their region and production system. Review and updates to existing resources to include recent research outcomes. Consultation on a new website has begun with engagement from MLA. GRDC and Agrifutures will be asked about their involvement. The website will be designed in house and hosted on AWI's server.

GHG emissions: Research tools and practices to mitigate GHG emissions from the sheep industry.

First asparagopsis pen study commenced. Received a government grant for paddock delivery mechanisms and extend scope to 3-NOP and Agolin. Pingelly and MerinoLink MLP ewes have been assessed for methane production as part of an MLA UNE DPI project.

ON FARM RESEARCH

Increasing reproduction outcomes through an increased weaning rate by 0.5 percentage points per year:- due to be reported from MERINOSELECT data of 30th June 2023.

Productivity: Increasing overall wool growing productivity through an increase of 4 Index points per Year. Due to be reported from MERINOSELECT data of 30th June 2023.

Flystrike resistance: Breeding for increasing flystrike resistance through increasing the phenotyping of Merino breech wrinkle, dag, stain and cover. Due to be reported from MERINOSELECT data of 30th June 2023.

MLP: Maintaining confidence in the MLP project and AGBU analysis. MLP retains its broad consultation with breeders, commercial growers, classers and researchers through the MLP Analysis and Reporting Committee - meetings held 1st and 2nd March 2023. Three sites have completed data collection, the final site New England will complete data collection in July 2024.

Wool harvesting. Wool harvesting innovation alternative and or innovative solutions to increase shearing efficiency and improve shearer and or animal welfare: The two-year biological wool harvesting project with University of Adelaide has commenced. Researchers will deliver a cost-effective compound to weaken wool fibres in order to harvest the wool using a simple mechanical device.

Data Platforms: Support the development of data platforms and support tools to optimise decision making. AWI continue supporting the Australian Agrifood Data Exchange initiative. Project partners are currently seeking co-investment from interested parties.

Improve technology adoption by increasing awareness and capacity. No suitable project at this time.

PROCESS INNOVATION & EDUCATION EXTENSION

Student Education

FASHION STUDENT PROGRAMS

In January and February, a total of **15** seminars/workshops were delivered globally with a total reach of **472** students.

The workshops during this period included Naturally Inspiring Seminars in France as well as workshops to support the launch of the 2023 Woolmark Performance Challenge (WPC)

MOD SPE (France), Naturally Inspiring

IED (Italy), WPC

WOOLMARK PERFORMANCE CHALLENGE

The 2023 Woolmark Performance challenge officially launched on 3rd February 2023. This year's technical partner is the Luna Rossa Pirelli Prada America's cup sailing team.

PROCESS INNOVATION & EDUCATION EXTENSION

THE CHALLENGE

Design future uniforms of the Luna Rossa Prada Pirelli team, find solutions and 100% natural, organic and recycled materials to combine with Merino wool yarns.

The challenge is to design bicycle uniforms, which must be adapted to the performance at sea, technological and innovative. The uniforms must include a minimum of 50% Merino wool mixed with natural or biodegradable fibres, avoiding increasing the number of microplastics in the sea.

Judging takes place in September 2023. The winner of the competition will receive an internship at Prada in their design department.

WOOL SCIENCE & TECHNOLOGY PROGRAM (delivered in India)

Courses from the Wool Science and Technology Program were delivered at 3 universities in India in late January-early February. The aim of this visit was to encourage educators in India to adopt the resources of the Woolmark Company for face-to-face education about wool as well as to explain the opportunities for wool education on the Woolmark Learning Centre.

The course on 'Wool Dyeing' was delivered at Institute of Chemical Technology (Mumbai) to around 45 students and staff. The course on 'Wool Fibre Science' was delivered at the Veermata Jijabai Technological Institute (VJTI) in Mumbai to around 149 students and staff and at the Technological Institute of Textiles and Science (TIT&S) in Bhiwani to around 150 students and staff. All courses were well received, and the lectures were recorded at TIT&S and placed on their You-tube channel. Some feedback below.

- While speaking to the media, President of Textile Sciences, TIT&S, Professor Dhamija shared that their institute provides an array of B tech of textile programs like, Textile engineering, Textile Chemistry, communication engineering.
- Chief Representative of The Woolmark Company, Dr. Allan De Boos asserted that as per the relationship agreement, Woolmark will provide the students of this course with all the necessary guidance and knowledge right from the primary to the practical/tertiary level.

The teaching program for spring semester in China is being finalised with at Yantai-Nanshan university and Jiaxing university. The courses will be delivered occur in April-May.

PROCESS INNOVATION & EDUCATION EXTENSION

TRADE SHOWS

The Woolmark Company integrated 3 targeted activations at Premier Vision PV) in Paris in February.

1. **The Woolmark Company stand, showcasing:**

- The Wool Lab
- Latest collaborations: Luna Rossa Prada Pirelli, Nissan FE, Hugo Boss, Vilebrequin, AMC Castore, footwear, seamless garments
- Infographic about circularity
- Video loop of educational & marketing contents:
- Merino wool process from greasy wool to fabric

2. **Woolmark x Nissan Formula:e booth**

- Nissan Race Car on display which was the most photographed activation at PV.
- High visibility: booth placed at the entrance of the main hall.
- Positioned Merino as a Performance & Innovative fibre
- Drove Merino awareness amongst fashion/textile audience

3. **Hall Doors**

- Located at the main trade show entrances Halls 4+5+6
- Nissan FE partnership launched on PV Hall Doors and redirected to TWC booth
- Woolmark gained high visibility through this activation
- Touched PV global audience: press, exhibitors, visitors

PROCESS INNOVATION & EDUCATION EXTENSION

WOOLMARK X NISSAN PARTNERSHIP

Targeted education activities: TWC in collaboration with D-house, Italy supported the students from Politecnico di Milano, the largest technical university in Italy, on developing new samples using technologies of Stratasys, Coloreel, Kornit and Framis Italia. Samples were also displayed at Pitti Filati at D-house exhibition area and together with 'Knitting the future' received strong interests from all the visitors of the event.

The Woolmark Learning center:

The first Woolmark Learning center course, Seamless knitting- Santoni Technology was launched in January 2023. The course is already performing extremely well with 55 course completions.

TWC and course development partners, Sudio Eva x Carola and Santoni, have been actively promoting the course via social media.

Seamless knitting – Santoni Technology

The course explores opportunities and solutions for creating products with seamless knit technology, and showcases how designers and brands can create, innovate and manufacture with seamless technology, with a focus on Merino wool yarns.

This innovative technology, led by knitwear technology manufacturer, Santoni, provides designers with an ever-increasing array of opportunities to create beautifully designed products, which fully integrate fashion with function to satisfy a variety of end-users. Studio Eva x Carola is at the forefront of global innovation in performance textiles. This course showcases the decade-long partnership between Studio Eva x Carola and The Woolmark Company to explore opportunities with seamless and circular knit technology using Australian Merino wool.

TRACEABILITY, WOOL Q

The integration between AWEX's WoolClip to AWI's WoolQ is now live. WoolClip will now be promoted as the industry's eSpeci. Having a single on-farm platform to capture wool information will play a large part in improving Australia's traceability and provenance credentials. WoolQ allows you to access all your clip test and sale information in one place, as well as utilising pricing tools and creating a profile to promote your farm brand. WoolClip is a critical tool to collect information and can be used alone, however test and sale data and the associated analytics tools are accessed through WoolQ.

Regular meetings continue as a group with AWTA, AWEX as well as the Australian Council of Wool Exporters and Processors (ACWEP) and the National Council of Wool Selling Brokers of Australia (NCWSBA) with a focus on how Australia can better position itself with accessible information for our customers along the wool supply chain.

EMERGING MARKETS

Vietnam:

Woolmark will have a dedicated stand at textile trade show in Vietnam for the first time – Global Sourcing Vietnam alongside Da Lat Worsted Spinning (Suedwolle Group). Taking part in this tradeshow will give us a good understanding of international interest in Vietnam as a sourcing hub post covid.

Bangladesh:

Site visits to Badsha Spinning and YoungOne occurred in April. Badsha Spinning are Bangladesh's largest cotton spinner and are a fully integrated operation that also includes, knitting, weaving, dyeing and garment making. They are a Woolmark Licensee knitting sweaters for M&S. They currently produce wool denim jeans for an American brand and are interested to start wool spinning and would like to expand their current offer to clients.

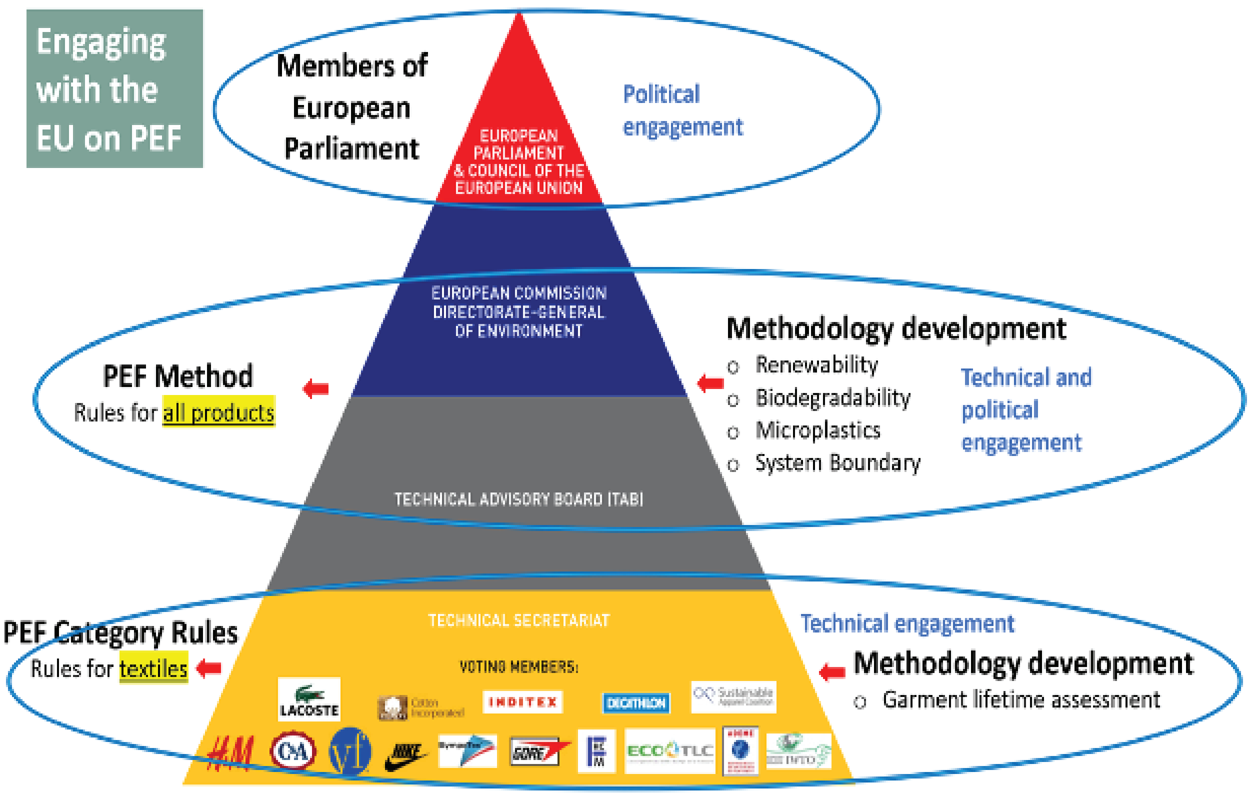
YoungOne visit will include seeing brand R&D centres within the companies facilities to gauge if a similar set up for Woolmark would be feasible.

FIBRE SCIENCE

1. EU Product Environmental Footprinting (PEF)

Over the last three years AWI/IWTO has been engag-ing with the EU to influence and improve PEF methodolo-gy to help create a level play-ing field for wool products in this proposed textile rating scheme.

The EU is a large organisation and we've found it necessary to engage at each level in their decision-making structure.



i. Red level – European Parliament & Council of the European Union

Good engagement is occurring with Members of the European Parliament through the Make The Label Count campaign (MTLC).

The EC's initial response to the MTLC's white paper, which argued for the inclusion of new indicators in PEF to create a more level playing field between natural and synthetic fibres (i.e. plastic waste, circularity and microplastics), was to argue against it. However, they appear to be softening this stance with the growing pressure from MTLC and like-minded NGOs, in particular with regard to inclusion of accounting for microplastics, although we don't yet have insights into the timeframe for doing so.

ii. Blue and Grey Levels - Directorate-General of the Environment (DG ENV) and Technical Advisory Board (TAB)

The PEF process is overseen by the EU Directorate-General of the Environment which in turn relies on the Technical Advisory Board (TAB) to validate adoption of any new methods. Engagement is currently underway with DG ENV staff reviewing the LCA datasets they intend to use for account for the wool industry's environment impacts in PEF. We have identified significant flaws, such as poor quality LCA data for wool, and are working to address them.

FIBRE SCIENCE

Coordinating with AWI's Norway-based Wool LCA members, presentations have been made to senior DG ENV staff proposing alternative methodology for achieve the EU's goal of 'putting fast fashion out of fashion' – methodology which will treat wool much more fairly.

<u>iii. Yellow level - Technical Secretariat (TS)</u>

The PEF Technical Secretariat for apparel and footwear is led by SAC, with its voting membership largely dominated by SAC members.

We are participating in several PEF working groups and leading two of them proposing methodology to improve accounting for the durability attributes of clothing. If successful, this change will diminish the overriding influence of the physical strength of garments on the overall PEF score, which significantly advantages clothing made from synthetic fibres.

<u>2. Mitigating-methane additives in grazing (MERiL)</u>

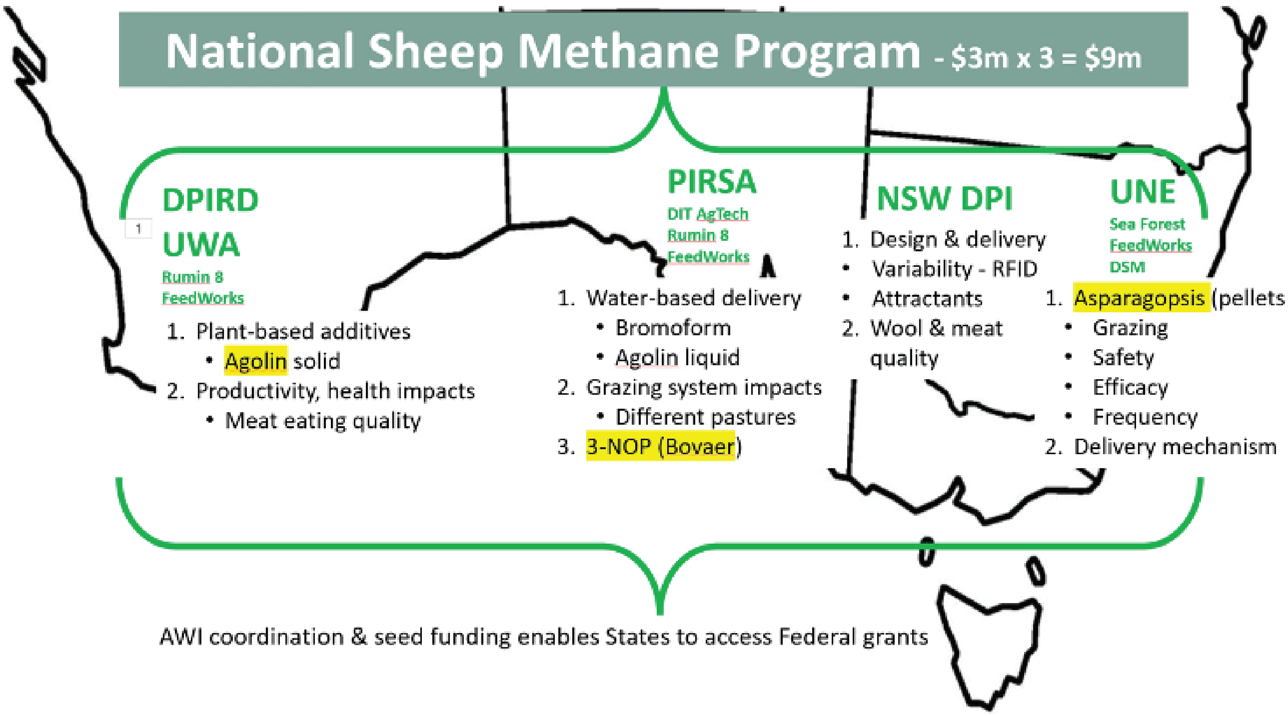
AWI has committed $3m to this area of research, given its potential to reduce GHG emissions, and is seeking to magnify it to $9m through accessing Federal Government grant funding and funding from research partners.

AWI has had success in gaining federal grants for the MERiL 1 & 2 projects and is awaiting release of the MERiL 3 project:

MERiL 1 – a grant of $500,000 for the UNE-based study of the methane mitigating potential of Asparagopsis

MERiL 2 – grants, cash and in-kind expenditure totalling $2,190,470 is being provided, following AWI support for NSW DPI, SARDI, UWA and UNE methane mitigating feed additive projects.

MERiL 3.1 – a grant, cash and in-kind expenditure totalling $2,489,900 is being provided on top of AWI's seed funding for a UNE, UWA and SARDI study of methane mitigating delivery systems and additives



FIBRE SCIENCE

Highlighting wool's circularity – Extended Producer Responsibility (EPR)

This data-gathering project to help The Woolmark Company capitalise on the upcoming EPR legislation in Europe which makes brands responsible for the end-of-life costs of the clothing they sell, is complete and a video is in production highlighting the advantages of wool recycling in an EPR-mandated Europe.

Circularity is a natural strength for wool and is a theme that is being used to promote increased sales of virgin wool.

Regenerative Farming Practices

Responding to strong market signals from brands for wool growers to demonstrate adoption of farming practices that build natural capital, sequester carbon in soil and vegetation and re-build biodiversity, two projects are underway:

a) Farming for the Future – this collaborative project is designed to develop evidence that quantifies the relationship between on-farm natural capital and business outcomes, including profitability and resilience. The first phase involves at least 150 farms which may then be extended to 1500 farms. The project will generate a publication on the management of biodiversity on livestock farms with a focus on woolgrowers.

b) Carbon Storage Partnership – this collaborative project is using multiple years of satellite imagery and farming systems models to identify the most effective adaptations to reduce net farm greenhouse gas emissions and increase biodiversity, depending on agro-ecological region, prevailing climate type and across different sheep enterprise mixes.

The researchers in both projects have recruited the wool growers who will participate in the study and are now undertaking the on-farm case studies.

Know & Show your Carbon Footprint

AWI is participating in this Australian Wool Innovation-led project to facilitate farmers measuring their carbon emission footprint. The focus is currently on finalising the project scope.

EXTENSION NETWORKS

Many key wool-growing areas have continued to face animal health challenges throughout the start of 2023, though many growers are reporting they were more prepared for it than last year. Many regions also had a relatively dry November – February period, allowing for greater control of the feet issues, worms and flystrike that plagued much of the industry across the past few years.

Carry-over lambs are present in a lot of operations with many growers concerned about offloading these lambs before lambing.

Each of the AWI Grower Extension Networks is led by a Producer Advisory Panel (PAP) whose role is to provide strategic advice for the manager to implement in their operational plan. Expressions of interest have recently been held to attract new growers to the AWI Sheep Connect NSW PAP and PAP meetings for all states are organised for the next few months to settle the Operational Plans for 2023/24.

AWI is holding an expression of interest process for the AWI grower extension network in WA, and the planning and proposal phase for Victoria and South Australia is underway, with their current projects finishing in June 2023.

WOOL HARVESTING

TRAINING DAYS / CATEGORIES

This current 22/23 financial year AWI has trained & up skilled **3556** participants. With a total of **1214** training days to deliver this training.

In Shed shearer training	1593
In Shed wool handler training	538
Industry workshop	385
Novice schools	358
Wool Handling workshops	20
TOTAL	2894

Exposure to the wool harvesting Industry with high school workshops and career expos with the following students

In Shed shearer training	1593
In Shed wool handler training	538
Industry workshop	385

PEOPLE TRAINED YEAR-TO-DATE 2022/23

- **2894** Participants trained working in industry & upskilled year-to-date.
- **1978** participants are ALL existing workers trained in the workplace or at an AWI industry workshop.
- **916** of the **2894** participants trained are new entrants to the industry, either trained at a novice school, at a wool handling workshop or trained as a learner new entrant in shed wool handling with on-the-job training.
- **662** Of the participants trained are school students, with AWI offering one day high school practical workshops & attending expos/career days.

AWI TRAINING CATEGORIES CURRENT FINANCIAL YEAR 22/23

LEARNER TOOLKITS

Learner shearer toolkit survey

- **325** Learner shearers surveyed.
- **96%** remain in industry working.
- **66%** have received their 3 or more in shed training visits.
- **83%** have or are planning to attend an improver course.
- **88%** have an interest in shearing outside their home state in Australia or NZ
- **100%** said they found the kit to be useful in establishing their career as a shearer.

The learner shearer toolkits have been a very well received initiative, there is plenty of reasons to keep investing with this "tools for trade" approach to assist with attracting and retaining shearers.

AWI LEARNER TOOLKITS

PER STATE 2022/23

NSW	60
QLD	6
VIC	41
TAS	10
WA	26
SA	18
TOTAL	161

The Learner toolkits are a very good resource for new entrant learner shearers, it is followed up with a commitment of 3 in shed AWI training visits in the first 6 months to improve retention and improve the quality of the learner shearers, which improves shorn numbers and best outcomes for all.

WOOL HARVESTING

AWI, SCAA & EWIT COLLABORATION & TRIP TO NEW ZEALAND

AWI & SCAA training held a train the trainer course in New Zealand in collaboration with Elite Wool Industry Training (EWIT). With the Memorandum of Understanding (MOU) between all three organisations, collaborating and working towards a common goal attracting, training & retaining wool harvesting staff and providing a consistent message for new entrants to wool harvesting. It is important we recognise the global shortage of staff, therefore working together to improve the demands from industry just makes sense.

With nine ambassadors & another seven shearers from NSW, SA & VIC were either chosen or were nominated to go to NZ for the golden shears and work for 4-6 weeks prior to this event. EWIT assisted with training on arrival with a 2-day workshop. Four wool handlers and 12 shearers in total, EWIT divided the crew up working with accredited shearing contractors in New Zealand. The feedback from the team has been very positive, they all have learnt so much and will be better for this experience. All Australians competed in events leading up to the Golden Shears, most competed in the pre shears course and all competed in the Golden Shears at Masterton. All did exceptionally well, with two first place ribbons in both the Junior Shearing & Junior wool handling categories, not seen in 36 years.

The train the trainer was also encouraging. EWIT have a strong group of trainers, all very consistent with the way they deliver the training. The Australian trainers all AWI trainers but some also working with SCCA lead by Glenn Haynes, learnt the pattern to shear the big crossbred and composite bred sheep. EWIT will bring four trainers to Australia in April to a merino shearing workshop in Geelong, where we will return the training assisting EWIT in how merinos are shorn and how we deliver the training to new entrants.

It is important we encourage our contractors to assist with employing New Zealand shearers in October & the late spring, with the plan to have 15-20 shearers from NZ with an AWI workshop on shearing merinos, it is critical we set them up for success and retention. From the workshop we divide these shearers amongst a range of contractors for the busy spring season. The work in New Zealand dries up in late spring, so it is important we try to capitalise on this and encourage them to work here. The plan is to make this very successful so more want the training and therefore more overseas shearers will arrive to a structured, managed and coordinated program.

MARKETING

The 2022 International Woolmark Prize final took place in London on the 26thApril, with UK-designer, Saul Nash, being awarded the International Woolmark Prize and South African designers, MMUSOMAXWELL, being awarded the Karl Lagerfeld Award for Innovation.

The decision to increase budget to host a physical event was rewarded with a significant YoY increase in media clippings +50% and media value +24%,noting that last year no physical event was held due to Covid restrictions.

THE event was attended by a cross-section of the industry's most influential designers and media with the judging room playing host to a thoughtful debate around wool by some of the industry's most prolific characters. The event also provided promising business development opportunities including a confirmed meeting with Hermes product development team following judge Nadege Vanhee Cybulski, Womenswear Artistic Director, Hermes positive experience on the day.

The China S/S campaign focused on educating millennials and Gen Z about the earth friendly benefits of Merino wool was launched on Earth Day, 23rdApril, and included an art installation in Laojun Mountain Nature Reserve inYunnan and video promoting wool's biodegradability. The repositioning was well received by brand partners and consumers.

- 108M impressions
- 24M video views
- 122 press clippings, with 90.9M readership and AU$997k earned media value

The campaign also included a purchase driving strategy through digital and social extensions, aligned with Chinese Festival, Goddess Day. A gift with purchase and KOL unboxing video content series was launched with seven key brand partners, Comme Moi, MO & Co., WENACCO, edition, An Ko Rau, ICICLE and NEIWAI, and retail partner, Farfetch, promoting Merino wool's natural, breathable, and trans-seasonable benefits.

- 7 brand partners
- 1 retail partner
- 18,535 Merino wool units sold (12% increase YoY)
- AU$9.4M GMV (24% increase YoY)

As part of The Woolmark Company's growth strategy through premium performance category partnerships we have confirmed a collaboration with Nissan's Formula E Team as the official technical partner. The partnership will include both team uniform product development and branding and high impact branding across racing cars, events spaces and digital marketing throughout 2023.

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