

IWTO

WOOL REVIEW

ISSUE 2

INTERNATIONAL WOOL TEXTILE ORGANISATION



FEDERACION
LANERA
ARGENTINA



**Caring for
wool since 1929**

www.flasite.com - info@flasite.com

CONTENTS

ABOUT IWTO

Chasing sustainability 2

PRESIDENT'S NOTE

Welcome to Hong Kong 4

SUSTAINABILITY

Wool recycling 8

Wool is biodegradable 10

Microplastics in our oceans 12

A pledge for the planet 13

Green credentials 14

绿色认证 16

Stemming the tide (Japanese translation) 18

The Prato effect 22

Organic growth 23

Wool: What's not to love? 24

WOOL FUSION

Wool is the word 31

Wool and pollutants 34

MEMBER ACTIVITIES

Wool in the digital age 38

Going once... 40

第86届国际毛纺大会 42

Wool news 44

Wool education in America 45

The IWTO Round Table 2018 46

News from the UK 47

WOOL EDUCATION

The Nanjing Wool Market Conference 50

A bright future for wool 52

The wool market in review 53

The Dumfries House Declaration 54

Wool sheep welfare 56

DISCLAIMER Published by New Media Publishing (Pty) Ltd on behalf of IWTO. All care has been taken to ensure the accuracy of information, but the publishing team accepts no responsibility for any inadvertent errors or omissions, and cannot be held liable for any damages resulting from the use of the information herein.

Copyright © 2018 IWTO. All rights reserved.

COVER IMAGE Photographer Bartek Szmigulski

Garment 100% wool floral printed jumper, Pringle of Scotland

Fashion Kamran Rajput **Concept** Visual Talent

Model Anna at MODELS 1

WWW.IWTO.ORG

CHASING SUSTAINABILITY

When asked to explain the focus of the International Wool Textile Organisation's work for the past year, accepting responsibility comes to mind. Our members take responsibility for the sheep, pastures and water resources under their care, their wool textile production facilities and the people they employ.



DALENA WHITE
IWTO SECRETARY GENERAL

At the Wool Round Table in Port Elizabeth in December 2017, Chris Kerston from the Savory Institute questioned the current trend in chasing "sustainability" and asked the pertinent question: Do we really want to sustain the current level of natural resource management? "Sustainability should be seen as the bridge to regeneration," he argued, and regenerating our natural resources should be our focus at this time if we really want to act responsibly.

During his opening speech at the World Economic Forum 2018 meeting in Davos, Indian Prime Minister Narendra Modi questioned the sustainability of current systems. "We have moved from a model of frugal consumption to needs-based consumption to greed-based

and the overflowing, toxic landfills will not be settled soon.

Twice a year, IWTO members and invited guests gather in different venues to debate the sustainability of our actions and how to manage the business of wool in a responsible manner. Be it on the stage, in the working group meetings or during the various social networking events, this topic is almost always the centre of conversation.

A lack of basic textile education has left consumers with very little or no knowledge of how their latest fashion purchase will react to their body and ambient temperature changes, the manufacturing footprint it has left behind, or the impact on the environment once it is discarded in the rubbish bin.

IWTO working group activities focus on supplying consumers with peer-reviewed scientific facts about wool garments.

One example is the Wool Life Cycle Analysis research conducted over the past 10 years, funded by industry contributions to the value of just more than US\$4 million.

We have to take responsibility for our actions and nurture the heritage of this biodegradable, renewable and sustainable fibre called wool. This will remain the focus for the calendar in the coming year.

Please visit www.iwto.org, sign up to our newsletter and find wool science resources and information you might need. We encourage participation from all our members and

OUR MEMBERS TAKE RESPONSIBILITY FOR THE SHEEP, PASTURES AND WATER RESOURCES UNDER THEIR CARE

consumption. Has this been development or has this been our downfall?"

The arguments about who is responsible for the vast pollution of Earth's water resources

visitors, so let us know if we can supply any further information on the topics of textile education, wool sheep welfare, or living more responsibly with wool.

DALENA WHITE



WELCOME TO HONG KONG



Ladies and gentlemen, I look forward to welcoming you to Hong Kong in May 2018 for the 87th IWTO Congress. It promises to be a stimulating and memorable three days.

I first set foot in Hong Kong just more than 40 years ago, in November 1977. It was then a Crown colony, and subsequently, since 1997, has been a Special Administrative Region of the People's Republic of China.

In those days, the wool business in Hong Kong was mainly confined to imports, handled by the European tai-pan trading companies established in the late 19th century, of European suiting fabrics for the booming made-to-measure business and the nascent cut-make-and-trim industry that was developing in the New Territories. The local acrylic knitting industry was waiting impatiently in the wings for more interesting times to come.

As the 1970s drew to a close, the world of wool in Asia – and far beyond – was about to embark on an unstoppable journey. It began with what was referred to as the “Period of Readjustment” in China, a process of fundamental structural change that started in 1979 and led to the radical economic reforms that began to emerge in 1982 under Deng Xiaoping.

Vice Premier Deng's early commitment to foreign trade saw the rapid establishment of three key enclaves where foreign investment could receive special treatment: Shenzhen, Zhuhai and Shantou, all in Guangdong Province. Globalisation of

the textile and garment manufacturing industry began just a few kilometres north of where our 2018 IWTO Congress will be held in Hong Kong.

The move to mix the free market with state control in China was to have a profound effect on manufacturing and retail distribution in the high per capita wool-consuming countries of the world. Hong Kong played a pioneering role in this process and became an essential Asian sourcing hub for the world's most prestigious fashion and interior textile retailers. Hong Kong became home to many textile tycoons of yesteryear and China played a pivotal role in this process.

The programme we have put together for the congress will review and reflect on global sourcing, now in an era of much greater transparency and accountability. Our speakers will address how the wool industry can continue to

play a leading, high-profile role in the world of sustainable fashion and interiors. Some may even dare to touch on the trend towards local sourcing and the scourge of global fast fashion!

We have negotiated an excellent package for our delegates at the prestigious Kowloon Shangri-La hotel, very close to the heart of the textile industry and the offices of all the major global retailers in Hong Kong.

The accommodation deal is in fact so attractive you may even be tempted to check out Shang Palace, a three-star Michelin Cantonese restaurant located on level B1 of the hotel. It's well worth a detour, as the travel guides say.



PETER ACKROYD
IWTO PRESIDENT

**WITH MY GOOD WISHES,
PETER ACKROYD**



HONG KONG BECAME AN ESSENTIAL
ASIAN SOURCING HUB FOR THE WORLD'S
MOST PRESTIGIOUS FASHION AND INTERIOR
TEXTILE RETAILERS



S U S T A I N





ABILITY

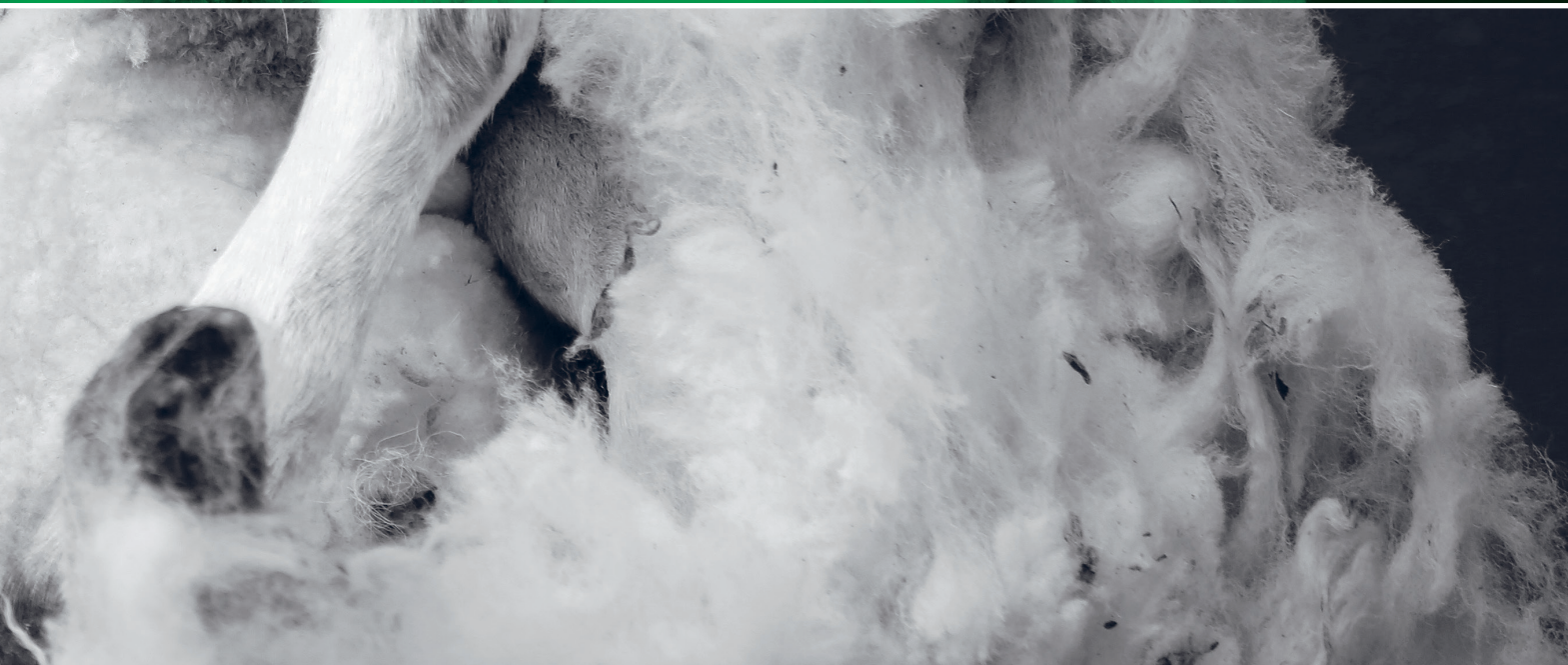


PHOTO GALLO IMAGES/GETTY IMAGES

WOOL RECYCLING



DR PAMELA RAVASIO
CORPORATE GOVERNANCE AND
RESPONSIBILITY SPECIALIST,
EUROPEAN OUTDOOR GROUP

AS the popularity of wool continues to increase, so the attention turns to the wool industry and its products. Scrutiny by brands and consumers focusing on improving their environmental and material footprint is on the rise, too.

The trend coincides with wider work done in this area, such as the development of the Responsible Wool Standard (RWS), which focuses on the traceability of virgin wool. Traceability and impact data gaps are being closed, design guidelines are being made publicly available, processes are being brought into the modern age, and new technologies are being developed or discovered.

One question keeps cropping up: Is recycled rather than virgin material a viable and desirable ingredient, both from a product as well as sustainability point of view?



Wool textile waste during the pulling process



Garment waste being sorted into colours



Wool waste being recycled into yarn

SUSTAINABLE PRACTICES IN ITALY

In an attempt to answer the myriad questions related to the use of recycled wool, the European Outdoor Group (EOG) organised a week-long trip in collaboration with GreenroomVoice to Prato, near Florence, Italy. What we found was a rarely talked about but nonetheless sizeable “niche” of the textile industry that has developed highly elaborate and specialised skills, processes, machinery and, last but not least, products.

Historically, the use of recycled wool was first and foremost an opportunity for European businesses to remain economically competitive, specifically in the lower price brackets. As a result, until not too long ago these products were undervalued for the sustainability potential they offer, and consequently flew under the radar of most sourcing professionals in the outdoor, fashion and textiles industries.

ONE MAN'S WOOLLY WASTE IS ANOTHER MAN'S WOOLLEN TREASURE.

A COMPLEX ISSUE



Discussions on the subject of wool recycling are ongoing. Recycled wool has, for example, the potential to lower a brand's environmental impact. However, the scientific data is patchy. What we know could allow brands to make a judgement call about the environmental impact of virgin vs recycled wool, but the information is insufficient to compare with insights into other materials in their virgin and recycled state.

Similarly, the use of recycled wool offers the opportunity to skip the wet processing stage required for virgin wool. This could be positive regarding the use of chemicals. However,

legacy chemicals (legislated today, but not a few decades ago) could be introduced accidentally, or a manufacturer may choose to overdye to ensure colour consistency in a fibre lot. Lead times could be compelling, but this assumes that sufficient recycled fibre in the colours required are readily available.

A final example is that the recycled wool process requires specialist manual labour and generates local employment. Yet it has to be kept in mind that manual labour requirements – which represent cost drivers in the value chain – always raise the issue of worker welfare and working conditions.



THE FUTURE FOR WOOL WASTE

Even with this handful of examples, there are a couple of important ingredients in the discussion, namely the specifics of the relationship between a supplier and brand, and the commitment of all players in the value chain – from the collector to the brand – to practise transparency and find ways to foster mutual trust.

The insights from the research trip will be made available publicly and the European Outdoor Group will continue to collaborate with its partners, The Sustainable Angle and Textile Exchange, to ensure insights are circulated in their respective networks.

With the ever-growing relevance of sustainability for brands' materials choices, recycled wool, from Prato specifically, offers a potential double advantage to material portfolios by combining environmental benefits with the option for European near-shore quality production at an affordable cost. More than a simple "diluting" measure to lower the price point, recycled wool could become known in its own right.

• www.europeanoutdoorgroup.com

IS BIODEGRADATION THE
WAY TO REDUCE CLOTHING
IN LANDFILLS?

W O O L I S



BIODEGRADABLE



ONA VILJOEN
FREELANCE JOURNALIST

With more and more clothing being discarded every year, we have to ask: Is biodegradation an environmentally friendly way to help reduce the volume of textiles in landfills? Yes and no, say the experts.

Biodegradation is a process that sees materials broken down by bacteria, fungi or other microbes. This matter is then recycled by nature as the building blocks for new life.

But although fibres of animal or vegetable origin, such as wool, can be broken down, not all textiles are suitable for this process. Synthetic fibres, for example, can disintegrate into small fragments, known as microplastics, or microfibrils, which last for many years. These fragments accumulate in aquatic environments and land disposal sites where organisms consume them. This has a profoundly negative effect on ecosystems.

Once in the food chain, microplastics can also affect human health via seafood consumption. In addition, biodegradation only takes place under certain conditions. Even a supposedly degradable material disposed of in an inappropriate environment may not degrade at all.

Why should we be concerned?

Clothing is clogging up landfills. And the growing fast fashion trade, which encourages consumers to buy more clothes and

replace them sooner, is largely to blame. Fast fashion focuses on generating numerous new collections per year at constantly lower prices. This means clothing, often of a lower quality, moves through the system ever faster.

According to a report published by the UK-based Waste and Resources Action Programme (WRAP) in July 2017, the average piece of clothing worn in this country lasts for 3.3 years before being discarded.

Americans alone produced 15.1 million tonnes of textile waste in 2013, and according to the United States Environmental Protection Agency, about 85% of that waste ended up in landfills. In the UK, 1.13 million tonnes of new clothing was purchased in 2016, an increase of a massive 200 000 tonnes since 2012.

What are the alternatives?

Two options are recycling and reusing, but both have limitations.

Recycling, either on a closed-loop or open-loop system, as commercially scaleable technology for all textiles, is still some years away. It's worth noting that wool is the exception: Innovative companies in Prato, Italy, have been producing top-quality products from recycled wool for decades. Reusing also has its challenges. Fast fashion is often of a lower quality and is rejected even in the traditional markets for used clothing, usually the poorer parts of Asia and Africa. A 2005 Oxfam report found that in Kenya up to a quarter of clothing in imported second-hand bales were unsaleable due to poor quality.

This leaves biodegrading.

Wool is eminently biodegradable

Wool, which grows naturally, is made of a protein called keratin (the same protein found in human hair). During the biodegradation process, fungi first destroy the ends of the wool fibre. Bacteria then digest the weakened fibre by secreting enzymes. Wool contains a high percentage of nitrogen, which is why it biodegrades so well.

In most tests, a wool garment buried in soil that provides the necessary microbes,

moisture, temperature and pH value can decompose in as little time as six months. When wool biodegrades, it releases essential elements such as nitrogen, magnesium and sulphur into the soil, which are consumed by growing plants.

Research has shown that certain processing treatments, such as dyeing and anti-shrinking, can negatively affect the rate of biodegradation in soil, causing an increase in the initial resistance of wool fabric to degradation. However, this is a short-term effect, typically not persisting beyond eight weeks.

What are the issues?

Biodegrading requires adequate light, water and oxygen. Unfortunately, many landfills are kept dry and oxygen-free, because uncontrolled biodegradation could cause the production of methane, ground-water pollution and unstable sub-soil conditions. In these conditions organic matter mummifies rather than decomposes.

"Typically in landfills there's not much dirt, very little oxygen, and few if any microorganisms," says green consumer advocate and author Debra Lynn Dadd. She cites a landfill study conducted by University of Arizona researchers that uncovered still-recognisable 25-year-old hot dogs, corncobs and grapes in landfills, as well as 50-year-old newspapers that were still readable.

Finding the solution

Consumers must be encouraged to buy fewer, better-quality clothes, such as wool garments, to reduce waste and environmental pollution. According to the WRAP report mentioned above, extending the lifespan of a garment by nine months of active use can reduce its environmental impact by up to 30%.

Controlled biodegradation outside landfills, or composting, is the answer. By carefully controlling the process (including moisture content and oxygen levels), composters transform biodegradable materials into useful products that are used in gardening, farming and soil conservation.

WHAT IS IN OUR OCEANS?

MICROPLASTIC POLLUTION HAS EMERGED AS ONE OF THE MOST CRITICAL AND URGENT GLOBAL CHALLENGES OF OUR TIMES.



DR BEVERLEY HENRY
ASSOCIATE PROFESSOR AT
QUEENSLAND UNIVERSITY
OF TECHNOLOGY

OF all the plastic entering the marine environment each year, about 3.2 million tonnes is primary microplastics. The microfibrils shed from clothing during washing represent part of the microplastic problem.

THE SCIENCE OF BIODEGRADATION

Until more research is done, two independent sources provide some confidence that microfibrils shed during the washing of wool clothing are less likely to contribute to persistent pollution than those from synthetic clothing.

In a master's thesis, RM Brown of the University of Canterbury, New Zealand, demonstrated that wool is biodegradable in marine environments. Laboratory experiments showed surface damage occurred after wool was incubated for 21 days with marine water. In situ experiments involved placing balls of wool fibre in Lyttleton Harbour. After eight months, although biodegradation was incomplete, the wool fibres had come apart and were covered by macroalgae. Microscopy and biochemical analysis showed that unlike in terrestrial environments where actinomycete and fungal microbes dominate biodegradation of wool, bacteria were the agents in the marine situation. Contributing further to the evidence for biodegradation was the observation that the fibre breakdown did not occur in sea water that had been sterilised. Hence,

chemical or physical factors were not significant agents in the breakdown of the natural protein molecules of wool.

A 1993 study supported by the Mote Marine Laboratory of the US Environmental Protection Agency reported "decomposition rates" for a range of household and other items of marine debris. Times for cotton and

wool garments were, respectively, less than six months and one to five years. The decomposition rate for a wool sock is not inconsistent with Brown's observation that degradation of wool fibres in marine water was substantial but incomplete after eight months. It is not known to what extent results are influenced by the focus of the marine debris programme on beach and shallow water observations rather than complete submergence. The US National Oceanic and Administration notes that for plastic debris such as nylon fabric and disposable nappies the estimates are for the time it takes for these items to become no longer visible, in other words, to degrade to microplastic size, not to return to nature. Plastics are different from the other materials that make up marine debris. Instead of being broken down naturally by organisms, plastics are broken down into smaller and smaller pieces by the sun, wind and waves, but they never go away completely.

WHAT DOES THE FUTURE HOLD?

Potential solutions to the problem will continue to emerge as more research is undertaken. For now, it is important for all of us as consumers to be aware of the impact on the environment of the textiles we buy.



Examples of the rate of decomposition of items of marine debris relevant to apparel and footwear

MARINE DEBRIS	TIME TO "DISAPPEAR"
Cotton shirt	2–5 months
Wool sock	1–5 years
Nylon fabric	30–40 years*
Leather	50 years
Rubber boot sole	50–80 years
Disposable nappy	450 years*

* Plastic items degrade to particles too small to be visible to the naked eye but remain as microplastic particles. There is a degree of variability in the times reported in different papers for some debris, particularly items composed of plastic. One contributing factor is the uncertainty about what happens over hundreds of years, because this is as yet untested, since plastics have been produced for fewer than 100 years.

One of the best things you can do for the planet as a consumer is to care for your clothes and mend them when necessary. Now imagine if you could recycle your old hoodie once it has reached the end of its useful life, knowing it will eventually break down and become one with the soil rather than polluting it.

"Other brands fight over who can bark the loudest about using recycled synthetics," says Linus Zetterlund, Marketing Director of RÖJK Superwear; "sure, they may be better than non-recycled ones, but they are neither natural nor biodegradable, and they still contribute to demand from the supply chain."



The brand currently uses substances that are certified by OEKO-TEX®, Bluesign®, FSC® and REACH®, to name a few, but it does not consider this a sustainable, long-term solution.

"The bottom line is that when you purchase our products you can be sure they are completely fossil-free," says Zetterlund. "They are also sustainably and ethically produced, as well as all-natural."

RÖJK Superwear also promises that all its packaging materials will be 100% biodegradable by 2023. Bags and boxes are typically regarded as rubbish, since they have no second-hand value. They are usually discarded, which increases the need to make them fully biodegradable.

A PLEDGE FOR THE PLANET

LEADING SWEDISH OUTDOOR BRAND RÖJK SUPERWEAR
HAS PROMISED ALL ITS PRODUCTS WILL BE
100% BIODEGRADABLE AND NATURAL BY 2020.

"This is not the way to rid our oceans and forests, or even food, of microplastics."

BELIEFS TO DYE FOR

RÖJK Superwear's ambition is not limited to manufacturing 100% biodegradable fabrics, zips and drawcords – it aims to include all the colours used in the dyeing process too. This means no synthetic colours or chemicals will be used. Instead, the team will source colourants from recycled foods such as nuts, vegetables and spices from the food-processing industry.

Obviously, this means the forward-thinking company will not have a vast palette of colours to work with, and these dyeing methods are generally costlier too. However, unlike many of its competitors, RÖJK Superwear is determined to do whatever it can for the benefit of the planet, even if it costs a little profit.

SOURCING SMARTLY

All of RÖJK Superwear's products are currently made in Europe, and a substantial portion of both fabrics and finished products are made in Sweden. This creates jobs and leads to shorter shipping distances and a reduced carbon footprint. It also puts the company on top of the entire production chain.


OPEN TO ALTERNATIVES

Zetterlund says they won't say no to production outside Europe if it means benefiting the environment even more. For instance, it may move the sewing of a garment to a location close to where the fabric is produced, instead of shipping the fabric across the globe for sewing, then shipping it again to a warehouse.

RÖJK Superwear will continue to strive to work for the benefit of the planet.



• www.rojksuperwear.com/en



GREEN

WOOL IS GAINING INCREASING RECOGNITION FOR ITS SUSTAINABLE QUALITIES DESPITE FACING NUMEROUS CHALLENGES AROUND THE WAY SUSTAINABILITY WITHIN THE TEXTILE AND GARMENT INDUSTRY IS DEFINED AND ASSESSED.

In today's textile and clothing industry, the term "sustainability" stands for everything good in industrial practice and product. Its prominence in the recent yarn and fabric shows in Europe highlights how the concept has struck a chord with the trade as well as the international public.

There is a slight problem, however. "Sustainability" is seen as desirable, but the label often comes with little detail about what it means.

DEFINING THE TERMS

IWTO invests significant resources in solid scientific investigation and research in order to make sure wool's sustainability is understood, and to counter inaccurate or incomplete messages that can pose a threat to the choice of natural fibre.

In addition to conducting its own research, IWTO works with groups like the Sustainable Apparel Coalition in an effort to attain a level playing field for wool when it

comes to eco-labelling and fibre ratings.

Dr Beverley Henry, Associate Professor at Queensland University of Technology and a member of the IWTO LCA Technical Advisory Group, points out "sustainability" sometimes applies only to one area of manufacture. "The term 'sustainable' is used very loosely and sometimes only for single processes," she says.

"Sustainability is generally accepted in a more technical sense as including the three pillars of environment, social and economic development, but arguably the most accepted definition is that from 1987, when the UN Brundtland Commission stated, 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'"

The term is also used more narrowly to mean avoiding the depletion of natural resources beyond the level that allows the maintenance of ecological balance through natural processes of renewal.

RECYCLING AND BIODEGRADABILITY

IWTO stresses that the full life cycle of fibres must be assessed to make comparisons, and with this approach wool scores highly. In life cycle assessment (LCA), one of the most effective ways of measuring sustainability, the end of a garment's life is as crucial as its beginning.

Wool can have enduring second-hand value and has been recycled for centuries – from the shoddy wool waste integral to Yorkshire's 19th-century textile trade to the extensive recycling efforts in Prato, Italy, today. Wool is sought-after for closed-loop recycling for garments and open-loop recycling for uses in industrial products.

Meanwhile, there is evidence that millennials seek out information about their clothes in the same way they approach what they eat. They examine provenance and impact on health and environment.

The parallel with food is important. Slow food is appreciated for its higher standards

C R E D E N T I A L S



compared with fast food, so fast fashion appears less attractive to environmentally savvy customers. This discerning public views wool as ecologically sound, a trend reflected at the recent textile trade shows.

A STATEMENT OF STANDARDS

The sustainability of wool has been highlighted by The Campaign for Wool and the IWTO with the 2016 signing of The Dumfries House Wool Declaration, witnessed by His Royal Highness The Prince of Wales, Patron of The Campaign for Wool.

The declaration lays down the essential principles of wool's eco-credentials and states that the major wool-growing countries must conform to the strictest standards of animal welfare, as embodied in the IWTO Specifications for Wool Sheep Welfare.

The problem of what happens when synthetic fast fashion ends up in landfill was graphically illustrated by Prince Charles in 2014 when he buried two sweaters in the garden of Clarence House. One was made from polyester and the other from wool.

Six months later, he dug them up. The polyester jumper was still pristine, whereas the wool garment had decomposed gently into the soil. The moment is captured in the documentary *Slowing Down Fast Fashion*, made by The Campaign for Wool to illustrate wool's natural and sustainable qualities.

"This is really saying, 'Come on! Wool is as good as it gets,'" comments Peter Ackroyd, President of IWTO.

A NATURAL PERFORMER

The rise of athletic leisurewear, widely promoted by The Woolmark Company, highlights wool's sustainable performance properties: moisture management, protection, comfort and odour resistance. These advantages make it the ideal fibre for professional sportswear and, as backed up by recent medical studies, for eczema sufferers too.

In addition, wool can be worn longer with less maintenance, requiring lower washing temperatures and shorter washes than other fibres. In the building trade and automotive industry, wool is chosen for insulation

because it is non-combustible, non-static, and it dampens sound, among others.

IWTO's analysis of wool and the environment also focuses on sheep welfare and rearing, including the environmental benefits of farming, biodiversity and nutrient cycling – areas often neglected in considerations of sustainability.

Wool is produced in more than 100 countries, with large-scale production of fine and superfine wool being the most concentrated. Carbon-mileage involved in trading, sometimes quoted negatively, makes a relatively small contribution to total climate change impact.

As enthusiasm for sustainability grows, The Woolmark Company's contention that wool is "natural, renewable and biodegradable" remains an accurate assessment of wool's credentials as one of the most sustainable fibres on the market. In addition, the ongoing work at IWTO to establish accepted definitions, such as the IWTO Specifications for Wool Sheep Welfare, is helping to make wool even more attractive.

绿色认证

虽然围绕纺织服装行业对可持续性的定义和评估方法面临许多挑战，不过羊毛正因为其可持续特质而得到越来越多的认可。Janet Prescott报道。

在如今的纺织服装行业，‘可持续性’是一个挂在所有人嘴边的热门词。它似乎是一切在行业规范和产品上做得好的东西的代名词。它的重要性在欧洲最近的2018/19秋冬季纱线和布料展上可见一斑，充分表明这个概念在‘绿色’词汇里在业内及国际社会引起了广泛共鸣。

可持续性对于羊毛来说是一个绝好的机会，它天生就是一种优质的可持续纤维。不过，也有一个问题——很难定义可持续性，现有的表述在把‘苹果比作梨’的复杂性上是完全模糊不清的。可持续性被认为是好的，但是往往连专业人士都不清楚它到底是什么意思。

国际羊毛纺织组织(IWTO)投入了大量资源通过科学的调查和扎实的研究查证信息，以确保了解羊毛的可持续性，消除不准确或不完整的讯息，这些可能会对天然纤维的选择造成威胁。

除了开展独立研究，国际羊毛纺织组织还与可持续服装联盟等团体合作，在生态标志和纤维评级上努力为羊毛争取一个公平竞争的舞台。

昆士兰科技大学副教授，国际羊毛纺织组织LCA技术顾问小组成员贝弗利·亨利(Beverley Henry)博士指出‘可持续性’有时候只适用于制造的某个领域。她解释说：“‘可持续’这个词使用非常宽泛，有时候只针对单一的工艺。”

“从更严格的技术角度来说，可持续性被普遍认为包含

三大支柱：环境、社会和经济的发展，但是可以说最被广泛接受的定义是

1987年联合国布伦特兰委员会的表述，可持续发展是既满足当代的需求，又不对后代满足需求能力构成危害的发展’。”

这个词也有狭义用法，是指避免过度消耗自然资源，使得无法通过自然再生过程保持生态平衡。

补充图片：循环和可生物降解性

国际羊毛纺织组织强调必须评估纤维的整个生命周期来做比较，通过这种方法，羊毛得分很高。在衡量可持续性最有效的方法之一——生命周期评估中

(LCA)，服装生命周期的结束同它的开始一样重要。

羊毛可以具有持久的二次使用价值，而且它已经有几个世纪的回收历史了——从对约克郡19世纪纺织贸易不可或缺的劣质羊毛废品，到今天意大利普拉托大力开展的回收行动。羊毛闭环循环用于服装，开环循环用于工业制品。

与此同时，有迹象表明，接受过绿色意识教育的千禧一代在穿上关注的信息跟吃上关注的一样：会检查健康和环境方面的认证及影响。越来越多人认识到羊毛是生态环保的，最近的纺织品展览会印证了这一点。

吃穿同等重要。慢食因其与快餐相比更高的标准而受到青睐，因此快时尚对于具有环境意识的顾客来说不是那么有吸引力。

“羊毛运动”和国际羊毛纺织组织大力宣传羊毛的可持续性，2016年在“羊毛运动”的倡导者威尔士亲王殿下见证下签署了《邓弗里斯宫羊毛宣言》。

《宣言》制定了羊毛生态认证的基本原则，共同约定主要羊毛生产国遵守最严格的动物福利标准，如《国际羊毛纺织组织毛用绵羊福利规范》所述。

2014年查尔斯王子用行动生动描绘了以化纤为原材料的快时尚最终以掩埋收场的问题，当时他在克拉伦斯宫的花园里埋下了两件毛衣，然后六个月之后把它们挖出来。一件由聚酯纤维制成，一件由羊毛制成。

聚酯纤维套头衫依旧崭新，没有变形，而羊毛衫已经温和地降解到土壤里。这一瞬间被电影“放慢脚步，快时尚”捕捉到，“羊毛运动”为了展示羊毛的天然性和可持续性拍摄了这部影片，由Blur乐队原贝斯手，如今科茨沃尔德的一位农场主阿莱克斯·詹姆斯出品。

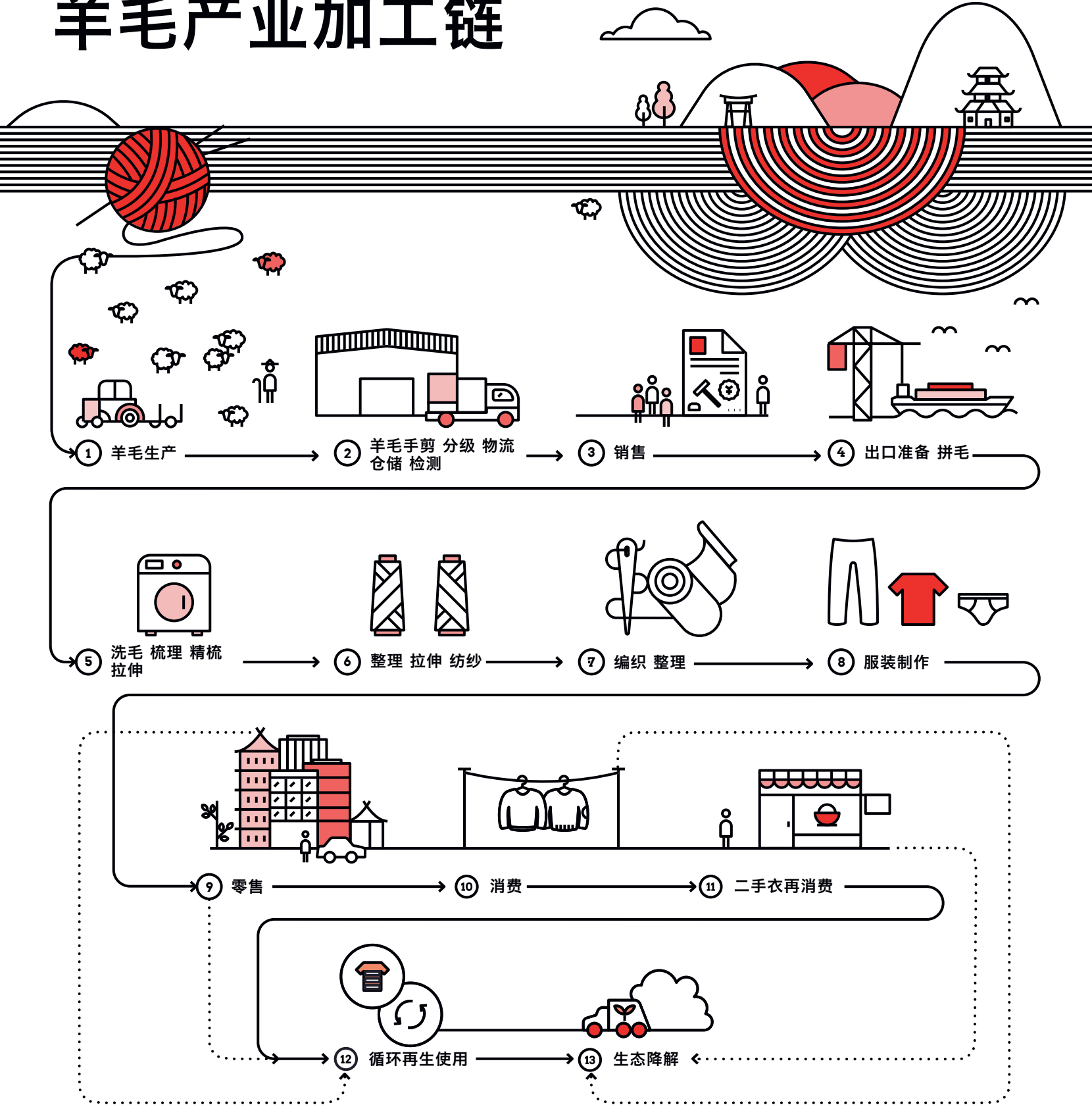
“这真的说明‘来吧！羊毛真的非常好，’”国际羊毛纺织组织总裁皮特·阿克罗伊德(Peter Ackroyd)说道。

天然表演者

在国际羊毛局的大力推动下兴起的运动休闲风突出羊毛的可持续性：湿度管理、保护、透气性、防异味和贴身舒适性。

此外，羊毛可以在很少维护的情况下穿更长时间，比其他纤维清洗温度低、时

羊毛产业加工链



国际毛纺织组织（IWTO）的会员涵盖从绵羊养殖到产品零售的整个供应链环节，它代表了全 球羊毛贸易的利益。通过促进研发，制修定毛纺行业标准，IWTO 为羊毛的可持续未来而服 务。请访问www.iwto.org 更多了解IWTO 及其活动。



悪い状況を食い止める

S T E M M I N G T H E T I D E



WEARING WELL-MADE CLOTHES AND WASHING THEM LESS WILL HELP REDUCE MICROFIBRE POLLUTION, EXPERTS FIND

上手く作られた衣類の着用とより少ない洗濯がマイクロ繊維汚染を減らす助けとなると専門家見出す

BRUSSELS, 23 February 2018 – A major report confirms that microfibres – tiny pieces of plastic shed from clothing made of synthetic fibres – are escaping waste-water treatment plants and ending up in the food chain.

ブリュッセル、2018 年 2 月 23 日＊「悪い状況を食い止める：合成繊維製衣類から脱落したプラスチックのごく小さな破片 - ミクロ繊維が廃水処理プラントをすり抜けて、そして、最後には食物連鎖に繋がると重要なレポートが確認しています」。

While all garments shed to some extent during use and washing, the quality and type of fibre matters.

全てのガーメントは使用中や洗濯中に繊維が多かれ少なかれある程度脱落するが、繊維の性質と種類が重要である。

The review estimates that between 20% and 35% of all microplastics in marine environments come from synthetic clothing, and this share is growing.

調査によると、海洋環境中の全マイクロプラスチックの 20%から 35%は合成繊維衣類からであると推定されており、この割合は増大しているとのことである。

To reduce the impact, researchers recommend investing in higher quality garments which appear to shed less, washing clothes less often, and washing on gentler cycles.

研究者は影響を減らすために、繊維脱落が少なく、洗濯頻度の低い、ジェントル・サイクル（弱サイクル）で洗濯する高品質ガーメントの使用を勧めている。

Increasing the amount of natural fibres in our wardrobes would make a “significant contribution,” to solving the problem, the authors said.

衣装ダンスの天然繊維の量を増

やすことにより、問題解決に「著しく寄与」できると著者は述べている。

In a comprehensive review of microplastics science released by the Norwegian institute for consumer research (SIFO), a team of Australian and Norwegian researchers summarize how different textiles and washing methods contribute to the spread of microfibre pollution.

ノルウェー国立消費者研究所（SIFO）によって発表されたマイクロプラスチック科学の包括的なレビューで、オーストラリアとノルウェーの研究者のチームが異なったテキスタイルと洗濯方法がマイクロ繊維汚染の拡大にどのように影響するかをまとめている。

While the mechanisms are not yet fully understood, the harmful effects of this pollution include the ingestion of microfibres by organisms in oceans, freshwater and coastal habitats.

メカニズムはまだ完全には理解されていないが、この汚染の有害な影響は海洋、淡水、沿岸環境での生物によるマイクロ繊維摂取が含まれる。

The negative impact is compounded by toxic compounds which are attracted to and retained by the microfibres.

マイクロ繊維に引き付けられ保持される毒性化合物によって悪影響が増大される。

20-35% of all microplastics in marine environments come from fibres shed by synthetic clothes

海洋環境中の全マイクロプラスチックの 20～35%は合成繊維衣料から脱落した繊維に由来するとレビューは見ている。

More than 60% of the world's textiles are now produced from synthetic fibres.

現在、世界中のテキスタイルの 60%以上が合成繊維から作られている。

■ EXPOSING THE SCALE OF THE PROBLEM 問題の大きさの指摘

Originally commissioned in 2014 to generate a better understanding of the issue of textile microfibres, the review of 81 source documents shows that knowledge of the scale of the problems caused by plastics is only just starting to be exposed.

当初、テキスタイル・マイクロ繊維問題のより良い理解を引き起こすために 2014年に調査が委託され、81の情報元文書のレビューが行われ、プラスチックによって引き起こされる問題の大きさの認識がcaろうじて指摘され始めた。

The work was funded by Australian Wool Innovation (AWI) and the Cotton Research and Development Corporation (CRDC).

研究作業はオーストラリアン・ウール・イノベーション（AWI）とコットン研究開発法人（CRDC）によって資金提供された。

Policies and technologies to substantially reduce release of textile microfibres are urgently needed, the study says. “Strategies are needed to meet demand for textiles without overconsumption and without unnecessary harm to the environment or risk to human health.”

テキスタイル・マイクロ繊維の放出を本質的に減らす政策と技術が至急必要であり、研究では次のように述べている。「過剰消費無しに、環境に対する不必要な害や人の健康へのリスク無しにテキスタイルに対する需要を満たすための方策が必要とされている」。

The findings will also hopefully lead to improvements in the way microfibres are addressed in eco-assessment tools. Currently, tools such as the Sustainable Apparel Coalition's Higg Index do not include microfiber pollution impacts in their assessments.

研究結果は将来的には環境アセスメント・ツールでマイクロ繊維を取り上げる方法での改善をもたらすものと思われる。現時点では、サステナブルなアパレル連合の Higg インデックスのようなツールにはマイクロ繊維汚染の影響についてのアセスメントは含まれていない。

■ LONGER LASTING, LOWER IMPACT

長く続く、比較的低い影響

Brand-based initiatives could be helpful: Beginning in 2017, the US outdoor brand Patagonia will provide all customers who purchase a Patagonia synthetic item with information about how to care for it to limit the shedding of microfibres in the wash and keeping what does shed out of the ocean. Practices include less frequent washing over the life of the garment, gentler washing and extending the life of the garment.

ブランド・ベースの取り組みが助けとなる：2017 年以来、米国のアウトドア・ブランドのパタゴニアは合成繊維製パタゴニア商品を購入した全ての顧客に対して、洗濯でのマイクロ繊維の脱落を最小限にして脱落繊維が海洋に放出されないようにするためにどのように取り扱うかについての情報を知らせている。試みには、ガーメントの寿命期間中にわたる少ない洗濯頻度、穏やかで優しい洗濯、ガーメント寿命の長期化などが含まれている。

But the greatest contribution to lessening the damage of microfiber contamination of the environment should come from consuming and disposing of fewer textiles.

しかし、マイクロ繊維汚染の環境への害を減らすのに最も効果的な方法は、より少ないテキスタイルを消費し、処分することが第一かと思われる。

"A significant contribution would come from promoting long-lasting garments ("slow fashion") based on increasing the proportion of natural, biodegradable fibre in the wardrobe," the authors say.

「衣装ダンスの中の天然の生分解性繊維の割合を増やすことに基づく長続きするガーメント（「スローファッション」）の促進が最も重要な役割を果たす」と著者は述べている。

"Fibres of plant or animal origin biodegrade naturally to harmless compounds which return essential nutrients back to soil or water for organism growth."

「植物繊維や毎年生成される繊維は必須栄養素となって生物の成長のための土壌や水に戻る無害の化合物に本来的に生分解される」。

Wool for example is made of keratin, a natural protein which has evolved with mammals for tens of millions of years, along with many species of bacteria and fungi in water and soil that thrive on it.

例えば、羊毛は、水や土壌で成長する水中や土壌中のバクテリアや菌類の多くの種とともに、何千万年の間に哺乳動物で進化した天然のタンパク質、ケラチンから出来ている。

Unlike plastic-based fibres, wool is not something synthesized in a laboratory, which nature had never previously encountered before the 1950s.

1950 年代前には決して出会ったことのない性質を有するプラスチックベースのファイバーとは異なり、羊毛は実験室で合成されたものではありません。

■ CONSUMER-BASED SOLUTIONS

消費者ベースの解決策

Regulatory solutions can take time.

However, the report makes several practical recommendations that consumers can readily put into practice. Top among these are washing clothes less often with milder detergents, using front-loading washing machines with gentler cycles, and investing in high-quality garments which, made to last longer, appear to shed less.

規制上の解決策は時間を要する。しかし、レポートは消費者が容易に実行に移すことができる幾つかの実際的な進言を行っています。これらの中の第一番は、弱サイクルの前面挿入式洗濯機を使ってよりマイルドな洗剤での衣類の洗濯の頻度を少なくし、長く着用出来て繊維脱落の少ない高品質ガーメントを購入することである。

"Use clothes made of synthetic fiber less, and especially clothes you wash a lot," says study author Ingun Grimstad Klepp of SIFO.

「少ない合成繊維から作られた衣類、特に丈夫に洗える衣類を使用する」と研究論文著者の SIFO のインガン・グリムスタ・クレップは述べている。

"There is little tradition of regulating clothing consumption," she adds. "For microfiber pollution to come under control, it's up to you and me."

「衣類消費を規制する慣例は殆んどありません」と彼女は付け加え、「マイクロ繊維汚染が規制されるかどうかは貴方と私次第です」。

UNLIKE PLASTIC-BASED FIBRES,
WOOL IS NOT SOMETHING
SYNTHESIZED IN A LABORATORY,
WHICH NATURE HAD NEVER
PREVIOUSLY ENCOUNTERED
BEFORE THE 1950S.



THE PRATO EFFECT

OUTDOOR APPAREL BRANDS HAVE WARMED TO WOOL FOR ITS INNOVATION AND PERFORMANCE. NOW CLOSED-LOOP RECYCLING IS PROVIDING THE FIBRE WITH YET ANOTHER COMPELLING POINT OF DIFFERENCE IN THIS KEY MARKET SEGMENT.

IN November 2011, in the run-up to the holiday shopping season, outdoor apparel brand Patagonia placed a full-page advertisement in *The New York Times* featuring a picture of one of its best-selling jackets accompanied by the words, "Don't buy this jacket". As one of the earliest examples of the circular economy, the advert urged people to consider the cost to the environment before choosing to buy a new product.

A CIRCULAR APPEAL

The circular economy production model aims to use as few resources as possible from the outset, while incorporating options for the end of the product's life into its design.

Recycling is also a key component. Over the past 10 years, clothing has been the fastest-growing waste stream in the UK, and this is linked to the rise in fast fashion.

While most discarded clothing ends up in landfills, used clothing exports have also increased dramatically since 2000. However, much is unsaleable due to poor quality – often associated with the greater use of synthetics and polyester/natural fibre blends.

These synthetics and mixes are not readily recycled due to a lack of technology and commercial viability. Wool, however, tells a different story, as it has been recycled for more than 200 years.

The best-case scenario for textile recycling is the closed-loop route. For wool, this means a mechanical process that sees garments "pulled" back into raw fibre state. Wool knitwear can retain its fibre length through this process and yield yarn that can be used to recreate a new garment that has all the qualities of virgin wool.

WARMING TO WOOL

Wool has been catching the interest of outdoor apparel brands since the early 2000s. "Wool potentially offers fresh opportunities for innovation



Wool fabric being recycled in Prato, Italy

for outdoor garments, and it has become a fibre that more players in the outdoor industry are looking into as one way of improving their environmental and materials footprint," says Dr Pamela Ravasio, Head of Corporate Social Responsibility and Sustainability at the European Outdoor Group (EOG).

EOG's 100-plus members vary from multinational global companies to small businesses, but they have one thing in common: sustainability. Outdoor brands

have a clear interest in ensuring that there is an outdoors in the future – and their reputations rest on it.

SPECIALISED SKILLS

To find out whether recycled wool can play a role in sustainable business strategies, an EOG team recently travelled to Prato, Italy, the capital of wool recycling. Here, yarns are produced from carding noils (carding waste) or through the reuse of fibres obtained from recycled pre- and post-consumer textiles.

The Prato Chamber of Commerce has also created the Cardato Regenerated CO₂-neutral brand. In this process, post-consumer recycled wool is spun into woollen yarn and then converted into high-value clothing. Using wool fibre already in existence, and the local, virtually vertical manufacturing process, the new garment has a limited impact on the environment.

"What we found in Prato was a sizeable 'niche' of the textile industry that has developed highly elaborate and specialised skills, processes, machinery and products," Dr Ravasio reported. She sees "great potential" for recycled wool in sustainable business strategies.

"We are looking forward to outdoor brands, particularly in Europe, actively making use of this unique opportunity available so close to home," she says.

Finished recycled wool yarn, available in various colours



Organic wool can pose various challenges to manufacturers, including added costs and more complicated logistics. But for niche markets these products can attract consumers willing to pay more for softer, chemical-free wool items.

GROWING DEMAND

The proportion of wool certified organic remains small. In Australia, for the 2015/16 season, according to the Australian Wool Exchange (AWEX), there were 348 bales of Australian Certified Organic wool and 14 bales certified under National Association for Sustainable Agriculture standards (bales have a minimum weight of 120 kg). This is dwarfed by the overall estimated 325 million kg of shorn wool produced in Australia during this season, according to Australian Wool Innovation.

But these proportions of organic wool are expected to grow. Dalena White, Secretary General of the International Wool Textile Organisation (IWTO), notes that the IWTO has been involved in developing trade standards such as the Global Organic Textile Standard (GOTS) that could help promote confidence in the production of organic wool.

CERTIFICATION REQUIREMENTS

Companies can use a mix of certifications to add value to their products and market them as truly organic. For instance, the International Association of Natural Textile Industry (Internationaler Verband der Naturtextilwirtschaft, or iVN) offers a BEST seal. This requires the woven or knitted piece of textile within a product (without accessories such as zips, ribbing, lining and buttons) to be 100% natural and come from certified organic production or certified organic animal husbandry.

According to an iVN spokesperson, production of animal fibres such as wool or silk have to meet high standards, including organic feed, species-appropriate animal husbandry, and no synthetic pesticide baths for sheep. Once the fibre has been produced, there are still many production steps to take before you have a finished garment, all of which could involve the use of substances that are prohibited or severely restricted for textiles certified as BEST or GOTS.

The iVN is a member of the International Working Group on a Global Organic Textile

ORGANIC GROWTH

PRODUCTION OF ORGANIC WOOL IS SET TO EXPAND, AS THE FIBRE OFFERS AN ADDITIONAL NICHE VALUE FOR GROWERS AND BRANDS ALIKE, DESPITE CHALLENGES SUCH AS HIGHER COSTS.

Standard. It notes that the two certification seals are similar, but GOTS has slightly less stringent requirements. GOTS products must contain at least 90% natural fibres, except socks, leggings and sports apparel, which can contain up to 25% synthetic fibres. GOTS also permits the use of a wider variety of dyes and processing agents, such as copper, a heavy metal.

COSTLY BUSINESS

Lithuania-based LANACare produces organic wool products certified under the GOTS and BEST schemes. The company sources its organic wool yarn and wool fibre from South America and South Africa. Jeannette Almström, Head of LANACare, says consumers in her niche market understand that higher prices reflect higher quality.

US-based Danish Woolen Delight imports organic wool products from LANACare to meet domestic demand. Founder Janice Emanuelsson says organic wool is more expensive because there are only certain grazing areas in the world that are guaranteed to be

completely free of pesticides. This obviously drives up transport costs, and the certification process adds to the costs.

A "SAFE" TEXTILE

Dalena White emphasises the importance of understanding that labelling some wool organic does not mean all other types of wool are unsafe or unhealthy.

"All wool from sheep is inherently organic material: natural, renewable and biodegradable, and made from the same complex and highly functional arrangement of amino acids, irrespective of the textile label we choose to apply to it," she says. "The textile label 'organic' simply means that many widely used chemicals cannot be utilised to assist the sheep or the wool processor."

These chemicals include commonly used veterinary medicines, such as preventative treatments against lice, flies and internal parasites. "The inability to provide their sheep with modern veterinary chemicals and medicines to prevent ill health is a major reason the great majority of wool growers find certified organic wool production unappealing, and why organic wool is not widely produced and supplies are limited," White adds.

And although some certifications require organic wool-producing sheep to be fed on pesticide-free grass, White notes that sheep typically graze on vegetation that is not susceptible to disease and is therefore not sprayed with pesticides.


ORGANIC SUPPLY CHAIN

For a chain-store brand to produce wool garments from certified organic wool, it would have to buy specific lots from wool auctions around the world, stockpiling them until it has a sufficient volume of raw wool for one consignment. The wool then has to be kept separate from non-organic wool through shipping, top making, spinning, and weaving or knitting the fabric.

"As some of these processes are done in different parts of the world, the logistical challenges and inevitable financial implications could cost it out of the retailer's reach," White says. "For example, to spin just the organic yarn, the spinner would have to remove all other yarn from his machines and would charge for that set-up and downtime in his production. This applies to every part of the manufacturing process if you want to have that certification ring true."

WOOL: WHAT'S NOT TO LOVE?

IT'S GOOD FOR ALLERGY SUFFERERS

A woman with light brown hair pulled back, looking directly at the camera. She is holding a thick, cream-colored wool blanket against her chest. The background is a soft-focus green, suggesting an outdoor setting.

Rid yourself of the idea that merino wool is itchy, heavy and scratchy, or that it causes allergies. In fact, numerous studies conducted by The Woolmark Company have shown superfine (17.5 microns or less), breathable merino wool is an excellent choice of fabric for eczema sufferers and those with sensitive skin. This is because it releases twice as much moisture vapour as cotton does – and thirty times as much as polyester does. Scientists say this unique moisture management works as a dynamic buffer between the fabric and dry, red, itchy skin, smoothing out the humidity and temperature.

IT'S EXTREMELY VERSATILE

It's no surprise Australian merino wool is the premier choice for luxury apparel, considering all its superlative qualities and the fact it is biodegradable and renewable. Already used extensively in high-end winter sportswear and haute couture, merino wool has a wide range of attributes that make it suitable for many other purposes and garments:

- Merino wool blankets keep babies

warm but also comfortably cool in hot weather.

- Because wool is naturally flame-resistant and doesn't melt, it's the go-to fabric for thermal protective clothing for firefighters.
- Wool's moisture-wicking properties makes it an excellent choice for activewear, and its elasticity allows the clothes to retain their shape after being worn.

IT'S A HIGH-PERFORMANCE NATURAL, SUSTAINABLE FIBRE. IT'S STAIN-RESISTANT, SOFT AND STRETCHY. PLUS IT CAN HELP YOU SLEEP BETTER AT NIGHT. **DISCOVER WHY MERINO WOOL IS THE FABRIC OF CHOICE FOR DISCERNING CONSUMERS AND MANUFACTURERS.**

What makes wool such an ideal fibre for bedding? Scientists believe it absorbs much of the sweat your body produces at night, keeping your skin dry and comfortable. Numerous tests have shown that woollen bedding isn't just for cooler climates – it is ideal in all conditions, hot, humid, dry, cold or wet.

Merino wool regulates body temperature, keeping you warm in winter and cool in summer. This is particularly helpful for babies, who have trouble regulating their temperature.

In one study conducted by The University of Sydney's Faculty of Health Sciences and published in the journal *Nature of Sleep*, eight participants slept in merino wool or cotton pyjamas and under cotton, polyester or wool duvets at three different temperatures: cold (17°C), neutral (22°C) and hot (29°C). The duration and type of sleep they experienced was measured with polysomnography tests, which monitor brain waves, heart rate, breathing, and eye and leg movements. The differences in sleep quality showed that wool pyjamas contributed to a faster sleep onset and deeper sleep than cotton pyjamas did.

The positive effect of wool on underweight newborns was illustrated in a series of small trials conducted by researchers at the University of Cambridge in the late 1970s and early 1980s. The aim was to determine the effect of a wool underlay compared to a cotton sheet.

The first trial found that the rate of weight gain in underweight newborns was 61% higher when sleeping on a wool underlay compared to the cotton sheet. A larger follow-up trial, published in 1983, confirmed the much higher weight gain for low-birth-weight babies when sleeping on wool underlays.

And in further studies fibromyalgia sufferers recounted a significant reduction in pain and improved sleep quality when using wool underlays. Elderly and bed-ridden patients also reported that a fleecy wool pile diffuses pressure points and provides better insulation.

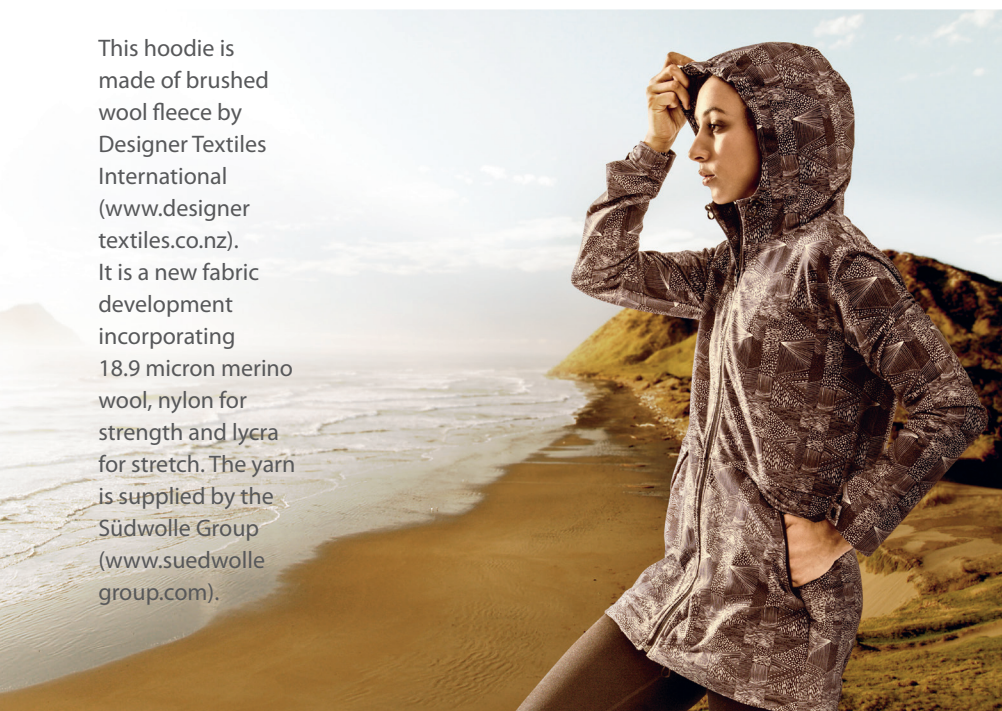
IT CONTRIBUTES TO A BETTER NIGHT'S SLEEP



WOOL: WHAT'S NOT TO LOVE?

IT'S THE ULTIMATE CHOICE FOR OUTDOOR CLOTHING

This hoodie is made of brushed wool fleece by Designer Textiles International (www.designertextiles.co.nz). It is a new fabric development incorporating 18.9 micron merino wool, nylon for strength and lycra for stretch. The yarn is supplied by the Südrolle Group (www.suedrolle.com).



After a few seasons of taking a back seat to technical wovens and insulated jackets, merino wool is making a comeback in outdoor gear. This season, it's all about retro-inspired prints and patterns created from this high-performance, sustainable fibre.

At the 2017 Outdoor Retailer Winter Market in Salt Lake City, old-school and heritage looks took centre stage. Knitted fleeces and cosy sweaters in merino wool with Alpine and Nordic-inspired patterning were particularly sought after. Also noteworthy was the range of fine-gauge circular knits and digital prints offered. These included colourful Alpine and folkloric base layers and sweaters reminiscent of retro European ski resorts.

Duckworth, a source-verified, single-origin merino wool apparel company, had merino wool knits ranging from thermal base layers to stretch wool sweater fleece. The garments are made in the US from Montana-grown wool. The brand incorporates sustainable practices on a number of fronts and uses minimal water in the dyeing process.

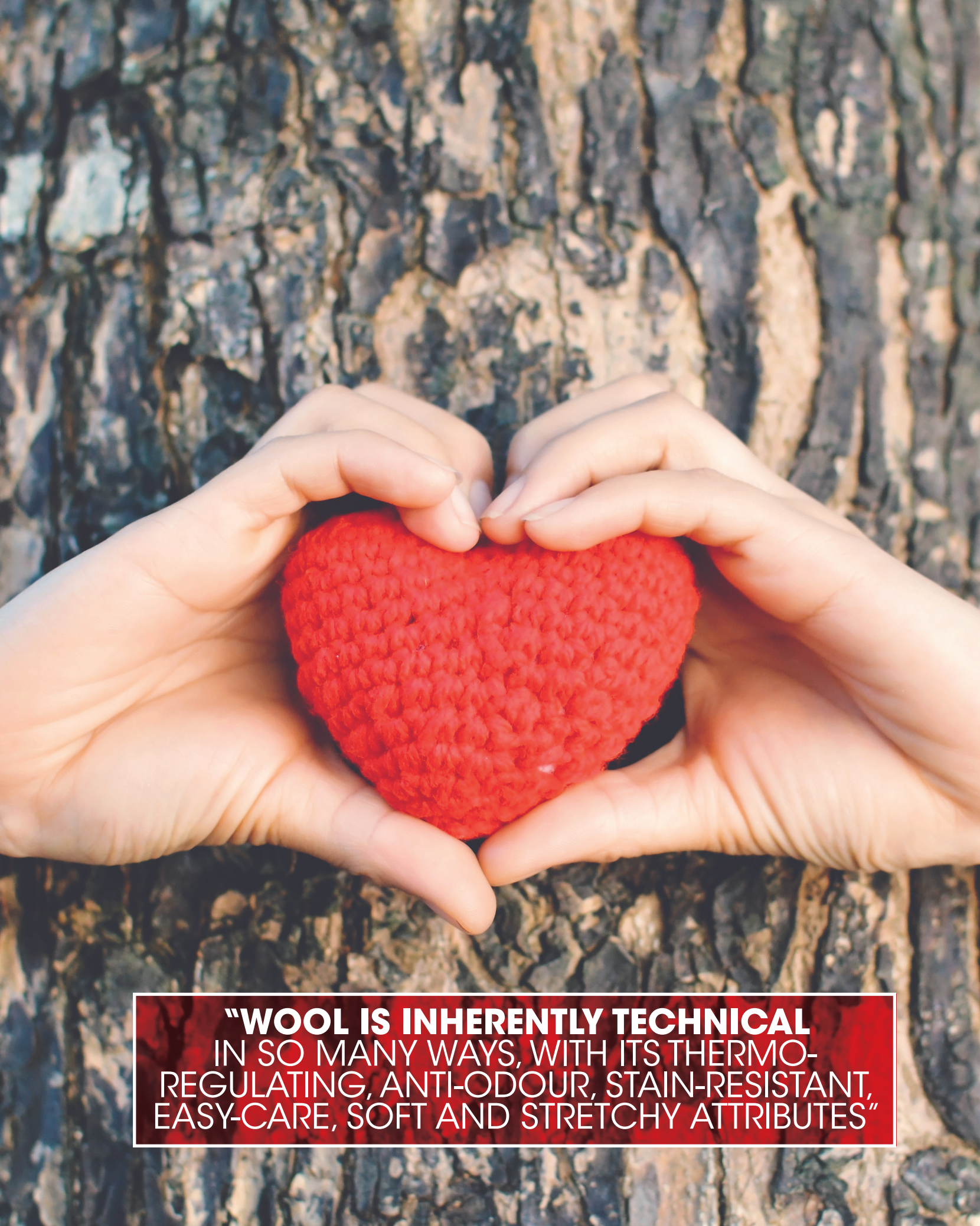
And then there were the socks. Farm to Feet, which specialises in socks made of US-sourced wool, offered ski-inspired patterns and retro marled ribbed socks in 19.5 micron wool.

IT'S GREAT FOR HIGH-PERFORMANCE GEAR TOO

Pioneering snowboard brand Burton Snowboards has teamed up with The Woolmark Company to unveil a range of merino wool garments, offering sportsmen and -women the ultimate in high-performance gear. The 100% wool collection comprises base layers, shirts, bottoms and accessories. "Wool is inherently technical in so many ways, with its thermo-regulating, anti-odour, stain-resistant, easy-care, soft and stretchy attributes," says a company spokesperson. "At the same time it's an all-natural renewable fibre that we source sustainably. These characteristics perfectly complement Burton's positioning as a premium alternative mountain lifestyle brand."



PHOTOS IWTO, GALLO IMAGES/GETTY IMAGES



"WOOL IS INHERENTLY TECHNICAL
IN SO MANY WAYS, WITH ITS THERMO-
REGULATING, ANTI-ODOUR, STAIN-RESISTANT,
EASY-CARE, SOFT AND STRETCHY ATTRIBUTES"



WOOL

LEFT TO RIGHT Blue Overdrive three-piece suit in 100% wool, woven in the Scottish Borders using a Donegal blended yarn, Dashing Tweeds
• Ernest pouffe in Crovie, SCP • Brit Pop tweed rug, hand-tufted in wool and cotton, Floor to Heaven • Hepburn four-seater sofa, upholstered in St Moritz Wool Teal, Heal's • Mustard and white Wave blanket in 100% lambswool, spun and dyed in Scotland, Hilary Grant • Zig Zag needlepoint



FUSION

cushion in 100% wool, designed by Paul Smith for The Rug Company • *Danse Nocturne* tapestry designed by Etel Adnan, using 95% wool, PINTON
 • Bronte by Moon herringbone cushions, Abraham Moon & Sons • Voe blanket in 100% Geelong lambswool, Hilary Grant • Jacket in 100% merino wool, woven in the Scottish Borders, with a Desert wax finish applied by Halley Stevensons in Dundee, Dashing Tweeds



- Hand-knotted 100% wool *London Streets* rug by Allistair Covell in collaboration with Rugmaker.
- Walnut and wool Babafelt easy chair by Charlotte Kingsnorth
- Boulder wool fabric in graphite and ecru by Tori Murphy



The success of the Campaign for Wool and its annual Wool Week is testament to the 3 000-year legacy of the fibre in Europe and its contribution to the modern economy. His Royal Highness The Prince of Wales remains patron of this not-for-profit campaign that aims to educate people about the natural benefits and versatility of wool in fashion, furnishings, childrenswear and nursery products, sports and innovation, and everyday life.

At the centre of Wool Week was the Wool Fusion event, which featured fabrics, fashion, furnishings and floorcoverings along with photographic and film content. The 2017 pop-up was located in Baker Street and once again attracted designers and retailers such as John Smedley, Christopher Raeburn, Wool and The Gang, Brora, Smalls, Jack Wills, Le Kilt, Richard James, Dashing Tweeds, Finisterre and Walker Slater.

In recognition of Wool Week, John Smedley, the British brand known for using the oldest mill in the world still in operation and famous for the original Long Johns, created a special four-piece collection called The Black Sheep x John Smedley. The garments, a pull-over, sweater, jacket and T-shirt, illustrate how wool's natural properties provide warmth, comfort, durability, strength and beauty.

Wool fibre, from fine to coarse microns, and originating from as far afield as New Zealand, Australia and South Africa, was celebrated during the week-long event.

WOOL IS THE WORD

WOOL WEEK 2017 IN LONDON ONCE AGAIN SERVED UP A VIBRANT, MODERN, SUSTAINABLE FUSION OF WOOL TO SUPPORT THE INDUSTRY.

COLOUR CURATION

Collaboration, contrasts and colour were in the spotlight at Wool Week 2017, where the thematic qualities of the hues and textures in fabrics, products, furnishings, fashion, flooring, photography and film were curated to reflect the dynamic versatility of wool.

"Activities at Wool Week 2017 have robustly illustrated how engaged consumers and retailers are with the wool message," said IWTO President and Campaign for Wool COO Peter Ackroyd. "The campaign has over 340 global industry partners and [the hope is] to build upon this in 2018."

TIMELESS TAILORING

The tailors of Savile Row once again supported Wool Week with demonstrations and shop windows. Prominent Savile Row bespoke tailor

Anderson & Sheppard supported Wool Week with window displays on Clifford Street featuring mannequins with bags of raw wool spread at their feet. Inside the shop, visitors were able to watch tailors cutting, sewing and pressing suits. Dashing Tweeds once again demonstrated weaving bright British wool tweeds in its shop on Sackville Street.

Now in its ninth year, Wool Week is set to become even bigger and better, with more exciting partnerships and collaborations.



- South African merino wool throw and cushion, Krafthaus: House of Wool
- Milestones Unfolded 100% wool felt rug, Jule Waibel
- Heal The Wool 100% recycled wool jumper, Wool and the Gang, and an image from Wonderland in the background



Above Vintage Amoebe chair by Verner Panton, upholstered in Harris Tweed • Wool lampshades by Janie Knitted Textiles



Left Ice Woollies by Jessica Dance, commissioned for Wool Fusion

- Green Amatheon-wool Bonham sofa, Habitat • Gwynne lambswool throw, Wallace Sewell • Hand-woven wool-and-cotton Mist cushion and wool Salthill tweed cushion, Mourne Textiles.
- Margo Selby Stripe Frolic Westbrook wool carpet, Alternative Flooring

Opposite bottom Motley Palette needle-punched wool rug from the Motley Collection, Adam Blencowe and Marine Duroselle • Ruché sofa, upholstered in Forest Nap colour by Inga Sempé, Ligne Roset • Alice Porto cushion, Alice Quod cushion and Loft Magnus throw, all in 100% hand-spun merino wool, Melanie Porter

- Bespoke triple geometric multicoloured merino wool lampshades, Jamie Knitted Textiles



Above Hand-dyed felted lambswool jumper and Classic Mix and Match kilt, Le Kilt; Aran boot warmers, Clare Johns; bespoke wool Pompom fairy lights, Melanie Porter • Harris Tweed coat, Brora; Rambler Rucksack Montage in Harris Tweed, Catherine Aitken;



pocket embellishment fabric weave sample, Rare Thread; Harris Tweed shoes, Manolo Blahnik • Military jacket, Richard James; pinstripe trousers, Walker Slater; Westmarsh holdall; Jack Wills • Blue Overdrive three-piece wool suit, Dashing Tweeds



WOOL AND POLLUTANTS

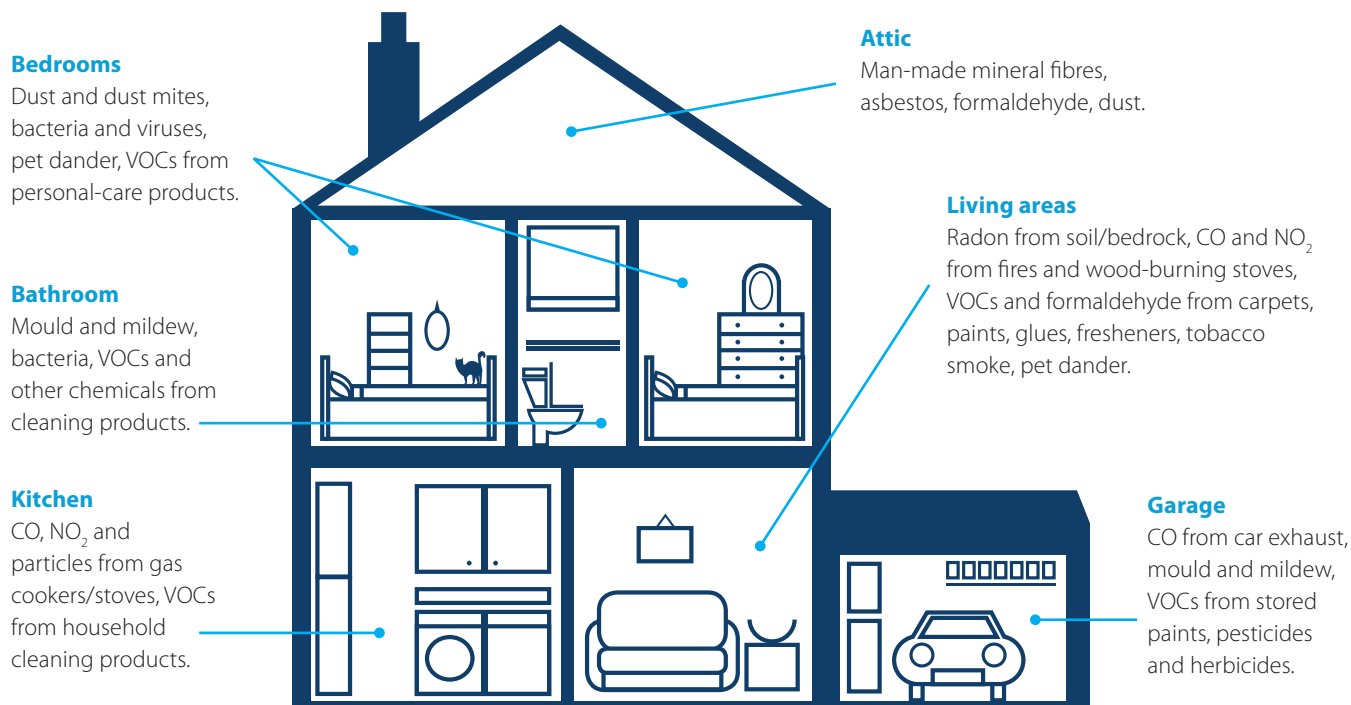
There's a growing awareness that indoor plants can reduce the presence of formaldehyde and other volatile organic compounds (VOCs) in the home. VOCs are a diverse group of chemicals released from solvents, paints and glues that are used and stored indoors. In small concentrations they are a normal part of indoor air quality, but exposure to high levels of VOCs indoors is a health risk.

Research conducted by Dr Graham Ormondroyd of Bangor University in Wales found that wool can absorb and bind formaldehyde. Speaking at the IWTO Congress 2017 in Harrogate, Dr Ormondroyd explained how his team ran tests on wool with increasing amounts of the VOCs dodecane and limonene. Each time the amounts were increased, the wool absorbed them all. In fact, they never found the point at which the wool stopped absorbing these compounds.

Dr Ormondroyd will be conducting further research on the absorption rates for different compounds, but the implication is that wool insulation could be tailored to different VOCs, depending on need or desired effect. In addition to being a great insulation material, wool is easy to install. It is also fire-resistant, recyclable and biodegradable. Proof that wool can be used to buffer VOCs in modern buildings is amazing news.

ONGOING
RESEARCH
SHOWS THAT
**WOOL CAN
ABSORB
HIGH LEVELS
OF VOLATILE
ORGANIC
COMPOUNDS
IN THE HOME**

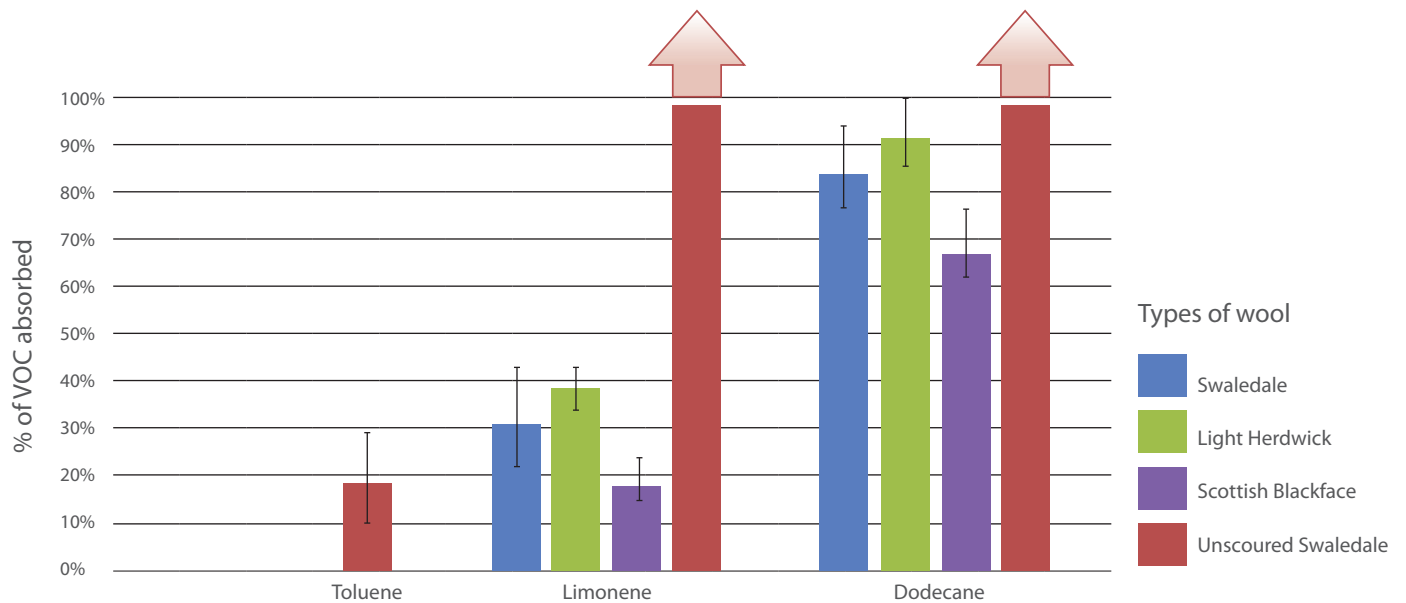
WHAT IS THE PROBLEM?



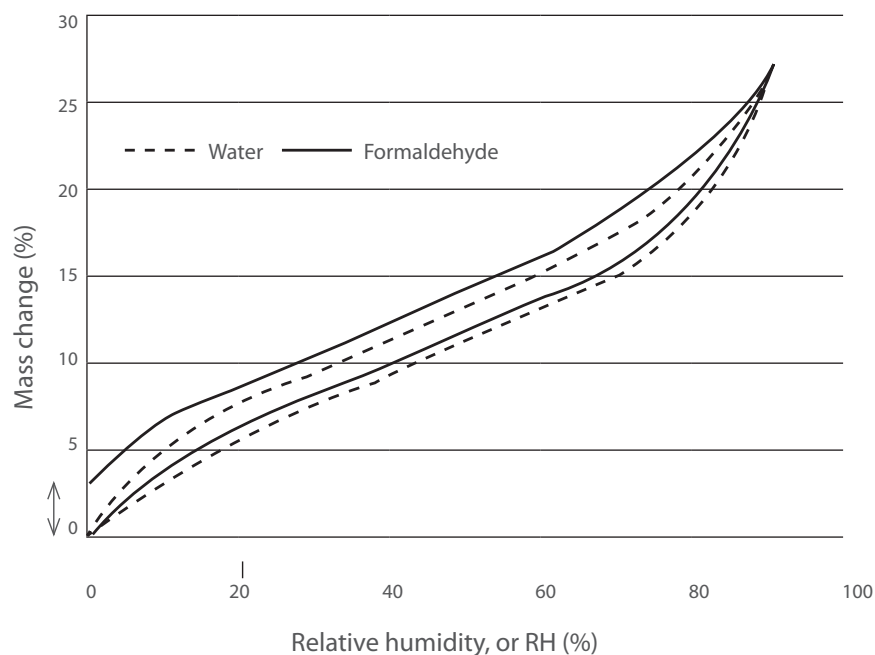
A graphical representation of sources of some indoor air pollutants, taken from "Every breath we take: the lifelong impact of air pollution", 2016

EVIDENCE SHOWS WOOL IMPROVES INDOOR AIR QUALITY BY ABSORBING AND RETAINING POLLUTANTS.

VOCs ABSORBED INTO WOOL



WOOL ABSORBS FORMALDEHYDE FROM THE ATMOSPHERE



Curling et al. (2012) *Journal of Materials Science* DOI: 10.1007/s 10853-001-6163-7



MEMBER





ACTIVITIES



PHOTO GALLO IMAGES/GETTY IMAGES

WOOL IN A DIGITAL AGE



THE issue of promoting wool to a wider audience was addressed at the 86th annual International Wool and Textile Organisation (IWTO) Congress, held over three days in May 2017 in Harrogate, a spa town in the north of England. It was attended by 249 delegates from around the world,

It was acknowledged that the explosive growth of digital media has led to amazing new ways to tell stories, but keynote speaker and Harris Tweed Hebrides Chairman Brian Wilson also had this to say:

Stick to first principles: quality and integrity.

Speakers and panelists at the Congress included British GQ Fashion Director Robert Johnston, who, along with Première Vision's Camille Serain and The Woolmark Company's Damian Madden, tackled the topic of "Wool in a digital age, exploring the impact of digitalisation on wool textile sales and marketing.

Other sessions covered market trends, British wool farming, wool sustainability, the use of wool in interiors, and the results of research into the use of superfine wool as a treatment for eczema.

TACKLING FAST FASHION

As IWTO President Peter Ackroyd explained, wool's transition into niche markets is a blueprint for the other noble fibres and similar industries around the world. "Globalisation offers producers of semi-manufactured goods, such as yarns and fabrics, an ideal opportunity to allow perception, performance and provenance to triumph over price," Ackroyd said in his opening remarks.

Today, more than 40 wool textile manufacturers, from specialists in tweed to weavers of some of the most technologically

PHOTO GALLO IMAGES/GETTY IMAGES

WOOL HAS A UNIQUE CONTRIBUTION TO MAKE TO THE SUSTAINABILITY OF INTERIORS, LIFESTYLE AND FASHION, BUT HOW CAN THIS MESSAGE BE COMMUNICATED TO A WIDER, INCREASINGLY RECEPTIVE AND DIGITALLY SAVVY AUDIENCE?

advanced textiles, are thriving in the UK.

Several speakers addressed the “modern mania for fast fashion”, as *GQ*’s Johnston put it. “Wool’s sustainability message will transform the industry from top to bottom,” he predicted, noting that by 2020 half of the world’s workforce will be millennials. This digitally savvy generation accepts climate change as a given and is empowered to “talk back to brands” about the “green credentials” of their clothes.

As part of the update on the Campaign for Wool, delegates viewed the trailer of pop-star-turned-cheese-maker Alex James’ award-winning documentary *Slowing Down Fast Fashion*, which highlights how the huge demand for cheap clothing poses a long-term threat to the environment.

In the film, which was supported by

its own wool standard, the wool industry’s quest for recognition as an environmentally and ethically sustainable one was another key congress theme.

One of the issues highlighted is the general lack of consumer understanding of “where things come from”, but Patagonia Traceability Manager Nick Allen saw hope in the form of technology, which, he said, is causing rapid changes in the industry.

With a distinguished record of environmental philanthropy and investment, this leading outdoor apparel brand spoke to delegates of its pioneering “wool journey” into animal welfare standards.

Patagonia shaped its Patagonia Wool Standard (PWS) Animal Welfare Standard Benchmarking on expert recommendations, stakeholder feedback, and practices

of the strictest standards of animal welfare under the national legislation of the world’s major wool-growing countries.

COMING FULL CIRCLE

Rounding out the congress programme, stories were shared of how wool or the use of wool has come full circle and has gained the recognition it deserves.

Following years of the reign of the polyester fleece, wool is triumphing as the fibre of choice for outdoorwear, according to Janne Strømmen, head of marketing for the Norwegian brand Devold of Norway. The brand’s Trollkyrkja anorak, which has a 100% merino wool outer layer that is wind- and water-resistant and has great breathability, received an ISPO Award (recognising exceptional sporting goods) in 2017.

Lorenzo Dovesi, COO of Benetton Group, spoke of how his company is moving production back to Italy, even while other luxury brands are doing the opposite. Clients are appreciating the move, he said.

Dr Graham Ormondroyd of Bangor University presented evidence demonstrating wool’s positive impact on indoor air quality. His research, funded through the European Union’s Seventh Framework Programme, found that wool can naturally absorb and retain harmful pollutants in the air, such as formaldehyde.

Wool grower Lesley Prior described her success in raising merino sheep in the UK, despite being told it couldn’t be done. Now not a day goes by, she said, without a new enquiry about her beautiful white 16.5-micron wool.

Professor Stephen Russell of the University of Leeds spoke about how the extensive recycling of wool clothing may lead to an improved sustainability rating for wool. This is right on trend with the most recent demands from retail for wool to fit into their closed-loop manufacturing strategy. And wool has been doing it since 1910.

• www.iwto.org

“WOOL’S SUSTAINABILITY MESSAGE WILL **TRANSFORM** THE INDUSTRY FROM TOP TO BOTTOM”

the Campaign for Wool, James speaks with designers, activists and high-street brands to show there is an ever-growing thirst for change as consumers start to look at clothes the way they look at food. One delegate called it “essential viewing for all involved in the wool industry”.

THE QUEST FOR RECOGNITION

Whether through the efforts of IWTO’s Sustainable Practices Working Group (which is making marked progress in filling in data gaps and challenging the assumptions used by ratings agencies) or through the work of brands such as Patagonia (whose desire for robust responsibility led to the creation of

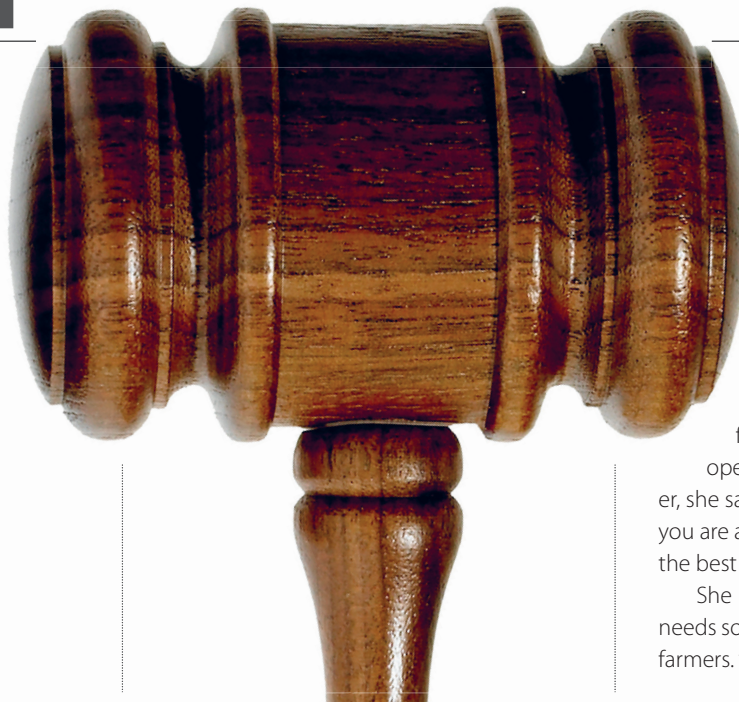
from 13 animal welfare standards, including IWTO’s own guidelines (the latest of which is available on the IWTO website at www.iwto.org/resources/iwto-specifications-for-wool-sheep-welfare).

IWTO President Peter Ackroyd invited delegates to pledge support for the industry in its quest for recognition by signing the Dumfries Wool Declaration. Many key players in the industry responded, and the total number of pledges now stands at 350-plus.

The Declaration, which is endorsed by His Royal Highness The Prince of Wales, lists 10 key principles that underlie the global wool industry, ranging from acknowledgement of wool’s natural attributes to assurance



Auctioneer Jo-Anne Naudé



JOINING BKB

When asked whether BKB had deliberately decided to appoint a woman in this post, Jacobus le Roux, Head of Corporate Marketing and Public Relations, replied: "No. Her practical experience, technical knowledge and background made her an excellent candidate."

Naudé says BKB is like one big family, and she was welcomed with open arms. Everyone helps one another, she says of her work environment. "But if you are afraid of hard work, this may not be the best place for you!"

She aspires to understand the buyers' needs so she can provide a better service to farmers. "If you don't know and understand

GOING ONCE ...

A YOUNG FARMER'S DAUGHTER WHO WORKS AS AN AUCTIONEER FOR BKB, A MAJOR WOOL AND MOHAIR BROKER IN SOUTH AFRICA, IS THE FIRST WOMAN IN THIS POSITION SINCE THE LOCAL WOOL EXCHANGE WAS ESTABLISHED IN 1920.

Twenty-four-year-old Jo-Anne Naudé's love of agriculture is in her genes. She is the great-granddaughter of a legendary South African sheep farmer, Fanie Naudé, who, together with Abe Pepler, established the Geelbek merino. Naudé grew up on a farm in the Eastern Cape province. After finishing high school, she obtained a degree in agricultural management at Grootfontein College of Agriculture.

Before joining BKB in October 2016, she gained practical experience as a field officer and learnt the technical aspects of the wool industry. She also attained valuable experience working for two other companies.

Naudé describes her first time on the podium as daunting. "Unlike stock auctions, it takes only 17 seconds before the hammer falls and the lot is sold. Everything happens quickly, but the auctioneers don't have to talk as fast as typical stock auctioneers!"

She adds that a good auctioneer is someone with experience, stature, personality on the stand and an unrivalled knowledge of the industry.

the industry, you can never auction a bale of wool convincingly – or claim a high price per kilogram."

She says the worst part of her job is the unpredictability of the market, and the best part is the palpable energy in the auction hall when record prices are achieved.

WOMEN IN WOOL

"The world loves wool," Naudé says. She believes a premium will always be paid for good wool, and farmers should guard against poor quality. Mohair enjoys a niche market and prices may vary, she says, but because of its unique characteristics there will always be a place for it.

In the meantime, Gerrit van Heerden, Senior Technical Officer for mohair at BKB, is teaching her more about the mohair industry. Away from the rostrum she is also involved in BKB's mohair re-sorting division.

In short, this farmer's daughter is a trail-blazer for women in auctioneering. She believes hard work and an eagerness to learn are key factors for success.

SERVICE EXCELLENCE



At BKB we value the importance of trust. Trusting that the rains will return and that the land will produce for those who nurture it. Knowing that trust cannot be bought, but rather earned over time through our actions and our commitment to you, through the good times and bad. We take pride in the relationships we have built with generations of clients, each underpinned by integrity and bound through a look in the eye and the shake of a hand.

SERVICE EXCELLENCE | ENTREPRENEURSHIP | EARNINGS | EMPLOYEES | ENVIRONMENT

www.bkb.co.za



The Trusted Home of Agriculture

86届国际毛纺组



2017年5月3-5日，来自全球250多位羊毛行业专家参加了在英国Harrogate举行的第86届国际毛纺组织会议，代表了全球羊毛产业链，包括20多位年轻的从业人员。本届会议主题是“Wool in Digital Age”，中国毛纺织行业协会会长彭燕丽，南京羊毛市场董事长杨泉雄等中国代表出席了会议，南京羊毛市场作为今年年会的官方指定媒体。

Harris Tweed Hebrides主席Brian Wilson致开幕词，举例说明羊毛是无可匹敌的纤维，激励整个行业要坚守以品质和诚信为原则。《智族GQ Style》的Robert Johnston, Premiere Vision (PV展)的Camille Serrain，以及国际羊毛局Damien Madden，围绕主题“数字化时代的羊毛”，展现了电子商务平台对毛纺营销带来的影响，包括B2B和B2C两个模式。品牌商班尼顿、巴塔哥尼亚和挪威Devold的代表也分享了他们的经验，将羊毛作为品牌的主要设计原料。会议期间还举办了市场走势、创意与技术、英国羊毛、羊毛可循环性，羊毛室内设计等相关论坛。

市场董事长杨泉雄受邀在信息论坛发表演讲，与国际纺织制造商联合会总干事Christian P. Schindler、英国羊毛局CEO Joe Farren等一起作为论坛嘉宾讨论美利奴和杂交种羊毛市场走势。杨董在演讲中介绍了中国经济及纺织行业现状、市场行情回顾、互联网+毛纺、羊毛市场工作等方面，特别

是讨论到粗细毛的转变，目前来看粗支毛从纱线、面料到成品的国内库存未来两年内都难以消化，细支毛因产量减少价格高企，再加上羊毛的跨界使用，在功能性服装上的开发会越来越多。

会议期间，中澳羊毛联合工作小组召开了正式会议。第87届国际毛纺组织年会将于2018年5月14-16日在中国香港举行，南京羊毛市场依然是官方指定媒体。

南京羊毛市场 总经理 江晨



织会议圆满闭幕

中澳羊毛联合工作小组会议在英国哈罗盖特召开



IWTO年会期间，中国澳大利亚羊毛联合工作小组会议5月3日在英国哈罗盖特市老天鹅饭店图书馆召开。中国毛纺织行业协会会长彭燕丽，南京羊毛市场董事长杨泉雄，张家港扬子精梳毛条有限公司董事长纪前龙，浙江新中和羊毛有限公司董事长华新忠、副总经理蒋明，江苏阳光集团技术中心科技主任许勇，中国毛纺织行业协会主任张书琴及南京羊毛市场总经理江晨和澳大利亚成员出席了会议。会议由澳方组长Robert Ryan主持。

会议首先由澳大利亚国家羊毛经纪人委员会总经理Chris Wilcox报告澳大利亚最新预测羊毛产量。2016/17年度第四次预报产量为33.9万吨，同比增长4.3%，2017/18年度第一次预报产量为34万吨，同比增长0.4%。（具体见下表）绵羊头数变化不大，由于近年澳大利亚气候情况不错，羊只单产增加了。

2015-2018三年度澳大利亚羊毛产量预测表

	2015/16	2016/17	同比	2017/18	同比
平均羊只单产	4.43公斤	4.59公斤	3.8%	4.6公斤	0.2%
羊毛产量	32.5万吨	33.9万吨	4.3%	34万吨	0.4%

中国毛纺织行业协会会长彭燕丽介绍了中国毛纺织行业运行整体情况，2015年起中国毛纺产品出口出现拐点，呈现负增长态势。2016年出口下降1.04%。2017年度规模以上企业反映情况相对较好，而一般性企业由于各种情况，经营依然比较困难。由于中国和东盟纺织品出口欧美有关税等差异，对中国出口影响较大，中国纺织企业走出去步伐较大。张家港扬子精梳毛条有限公司董事长纪前龙补充中国市场的一个

亮点是城管制服等，后面希望能加强对行业制服使用羊毛对市场影响的研究。江苏阳光集团技术中心科技主任许勇强调羊毛原料成本的上涨和人工成本的上升对毛纺企业的影响较大，后道需求也会因此降低。

谈到培训，中澳双方都认为机制已经非常成熟，模式要固定下来，未来要反馈学员培训意见，便于培训的进一步深入。

关于中澳条款，彭会长指出中国政府2015年开始进行标准化体系的改革，发布了《国家团体标准制定指南》，中澳条款日趋完善具备成为国家团体标准的基础，建议申请国家团体标准。澳大利亚羊毛出口与加工商委员会董事Peter Morgan认为原则上没有问题，可以制定草案，下次会议讨论。南京羊毛市场董事长杨泉雄表态中方小组秘书处会对国家团标制定指南尽快对条款格式和技术规范进行修订，尽早提交澳方。纪总建议双方继续努力推广中澳条款保障中澳羊毛贸易规范。双方讨论后原则上同意中澳、中新小组合并。

杨董向澳方通报了国家质检总局认证程序的最新进展和中澳自贸协定和配额等最新情况。浙江新中和羊毛有限公司董事长华新忠建议澳方建立炭疽热等疫情通报应急机制，以便中方及时了解情况向检验检疫局寻求解决方案。

双方约定中澳羊毛联合小组下次会议在中国桐乡9月羊毛市场会议期间举行。

Members of The Federation of Australian Wool Organisations (FAWO) meet on a regular basis to confer and co-operate with local and international wool industry organisations on matters of mutual interest and industry benefit. FAWO members include Australian Council of Wool Exporters and Processors (ACWEP), Australian Wool Exchange (AWEX), Australian Wool Handlers (AWH), Australian Wool Innovation (AWI), Australian Wool Testing Authority (AWTA), National Council of Wool Selling Brokers of Australia (NCWSBA) and WoolProducers Australia (WPA).

JOINT WORKING GROUP

The China Australia Joint Working Group was established in 2007 to investigate wool contamination issues. It has since expanded to enhance commercial and training interests



Launched in 2017, the Australian Wool Industry Medal recognises men and women who have made exceptional contributions to the Australian wool industry. The 2017 recipients are, from left to right, Barry Walker, David Ward, Dr Peter Morgan, Robert Ryan, Geoff Power, Robert Carter, Nan Allison, Sally Martin and Wally Merriman. Athol Frederick and Rod Franklyn were absent.

WOOL NEWS DOWN UNDER

THE FEDERATION OF AUSTRALIAN WOOL ORGANISATIONS, FAWO, IS THE CONTINENT'S PEAK WOOL INDUSTRY BODY AND REPRESENTS AUSTRALIA'S INTERESTS AT IWTO.

with China, and it meets twice a year. The two countries worked closely together to establish the "General Terms and Conditions Governing the Purchase of Australian Greasy, Scoured and Carbonised Wool, Wool Top and all other Types of Wool Fibres".

EMERGENCY ANIMAL DISEASE (EAD)

The FAWO Emergency Animal Disease Working Group was formed in August 2011, initially with FAWO members. It has since expanded to include representatives from other organisations and government. In 2013, FAWO received an Australian 2014 Biosecurity Award for work undertaken by the EAD Group. Members of the group have been involved in a number of projects, including:

- The preparation of the AUSVETPLAN Wool Industry Enterprise Manual.
- The Australian Wool Industry Emergency Animal Disease Research Development &

Extension Strategy has been supported by Australian Wool Innovation. This entails co-ordination and stakeholder engagement, administration, research and development, and feedback to National Animal Biosecurity Research Development & Extension

Strategy. Projects have included disease control, traceability, seminars and training workshops.

- Members representing FAWO and WoolProducers Australia went to Nepal to learn more about foot-and-mouth disease and to see first-hand its effect on animals and the treatment required. WoolProducers Australia have provided funding for future training trips.
- This group works closely with Animal Health Australia and the Australian Department of Agriculture and Water Resources.
- In 2014 the IWTO Wool Trade Biosecurity Working Group was established in Cape Town, South Africa. FAWO members participate in this group to discuss and share EAD issues, development and research undertaken in various countries.

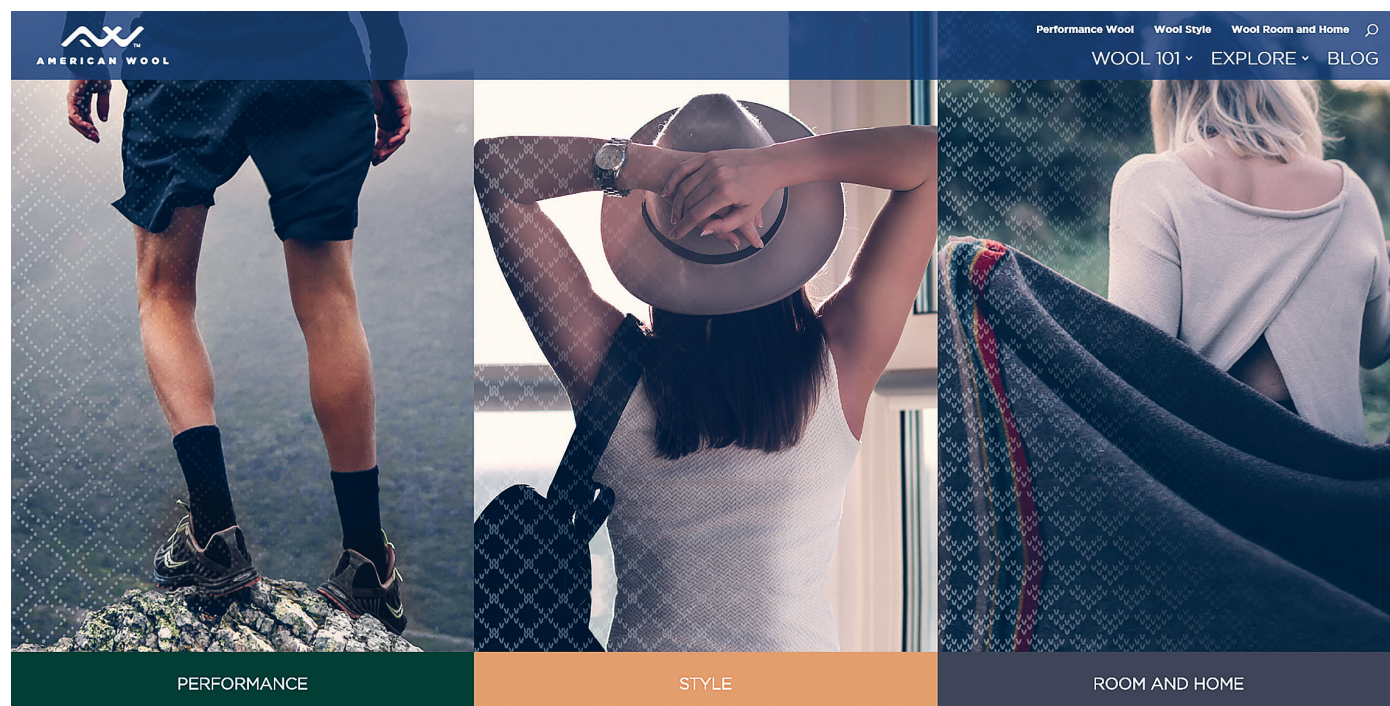
• www.fawo.org.au



Members of the China Australia Joint Working Group at Harrogate in May 2017.

WOOL EDUCATION IN AMERICA

THE AMERICAN WOOL COUNCIL LAUNCHES A WEBSITE TO EDUCATE CONSUMERS.



Wool is the only fibre crafted to meet any purpose. With versatility matched only by the diversity of the wearer, wool is the perfect fibre for any season and any occasion.

With that in mind, the American Sheep Industry Association and its American Wool Council have launched a multifaceted campaign to take wool's incredible story straight to the consumer.

This campaign includes a new website at AmericanWool.org. In addition, a new American Wool logo was launched in 2016 to kick off renewed promotional efforts. The website will work in conjunction with social media sites to tell American wool's narrative in a multimedia fashion that includes stories, photography and video.

CHANGING PERCEPTIONS

"What we found is that consumers are simply not aware that wool is a high-performance

fibre," says ASI Director of Wool Marketing Rita Kourlis Samuelson. "A lot of consumers don't understand how modern-day wool differs from grandma's scratchy old sweater. We saw a need to educate the consumer about American wool, and the new website is the best way to reach an audience that is ready to embrace products made with natural fibres such as American wool."

One fibre, four seasons. Moisture wicking and protection. Always breathable. Thermal comfort. Now consumers can learn about these high-performance traits of American wool in one convenient location.

CLICK, LEARN, SHOP

Get started at Wool 101, which covers tips for the care of wool products, the types of wool, the science of wool, and animal care.

Get up to speed on every step in the process of creating wool garments. Learn about woollen and worsted garments, and have

a look at a variety of wool fabrics, from 18.5 micron wool used in base layers to 24.5 micron wool common in outerwear.

American wool provides natural protection from the sun's damaging ultraviolet rays, is anti-allergenic, flame-resistant and odour-resistant. It is nature's magic fibre, and AmericanWool.org will help those in search of such benefits find the perfect fit.

A shopping section links consumers with companies offering American wool products, ranging from clothing to blankets. Whether you're in need of hiking socks, a winter coat or a blanket for use around the campfire, AmericanWool.org has you covered.

In addition to using the website as a resource, consumers can find more information on American wool by following "Experience Wool" on social media.

• www.americanwool.org

One of IWTO's many roles is to maintain platforms for industry members to connect with one another over issues that affect the global wool industry and supply chain. One of these platforms is the annual Wool Round Table, which offers an excellent opportunity for networking. It is a relatively small forum that is well suited for strategic discussions among members about plans for the future and strategies.

The Round Table meeting is held once a year in one of the member countries, with the focus on that country's wool industry. The programme features top speakers from the local industry.

PATAGONIA'S HISTORY

Wool production is one of Argentina's oldest agricultural industries. Sheep farming expanded across the Patagonian grasslands in the late 19th and early 20th centuries, turning the country's southern regions into some of the world's foremost sheep-farming areas.

In the 1860s, the Argentinian government granted dissident Welsh settlers land rights in the coastal Chubut province. In the following decades, the government encouraged Scottish settlers to move to the steppes of Patagonia. The hardy farmers brought sheep with them, mainly for the production of wool.

By World War II, Patagonia had millions of heads of sheep but only a few settlers. Santa Cruz province alone was home to 7.5 million

sheep on just 1 500 *estancias* (ranches).

However, raising sheep on Patagonia's fragile, arid land proved unsustainable both ecologically and economically. Overgrazing led to desertification, rendering the land unproductive and prone to wind erosion.

allows for much-needed regeneration of native plant species and helps to prevent desertification.

MATTERS OF WOOL

A large percentage of Argentina's sheep flock is merino sheep, found mainly in the provinces of Neuquén, Río Negro, Chubut and northern Santa Cruz. Federación Lanera Argentina's production estimate for the 2017/18 season is 42 400 tonnes. In 2016/17, a large percentage of the clip (40%) fell in the 19.5- to 21-micron range, with 8% finer than 19 microns. The rest was stronger wool. The main export destinations were Peru, China, Germany, Italy, Turkey and the Czech Republic.

ANNUAL MEETING

The 2018 Wool Round Table meeting will be held in the Argentinian capital Buenos Aires from 3 to 4 December. The venue, the Recoleta Grand Hotel, is located in the heart of Recoleta, one of the most elegant and distinguished neighbourhoods of the city. The hotel is fully equipped with the latest event technology, and offers paid airport and city shuttles.

All IWTO members are invited to attend this meeting, which promises to be extremely informative.

• www.iwto.org/events

IWTO ROUND TABLE 2018

THE IWTO WOOL ROUND
TABLE 2018 WILL BE HELD IN
BUENOS AIRES, ARGENTINA,
FAMOUS NOT ONLY FOR THE
TANGO BUT ALSO FOR
QUALITY WOOL.

By the 1990s, with the global wool price at a low, many *estancias* were abandoned and the number of sheep in the region had plummeted. Farmers in the region have since begun rotating herds between pastures, which



NEWS FROM THE UK

IWTO PRESIDENT PETER ACKROYD EXPLAINS THE STATE OF AFFAIRS FOR WOOL POST-BREXIT, AND SCOTTISH WOOL PRODUCER AGNES GOUGH SHARES THE STORY OF THE GREAT NORTHERN CLOTH.



Brita Hirsch and David Evans, who blogs as Grey Fox.

The UK textile and fashion industries are going through some rather interesting times as retailers face up to the inevitable price rises that a post-Brexit-vote -10% to -20% devaluation of the British pound has forced upon an industry that is about 93% dependent (official UK Government figure) on imports of clothing, mainly from US-dollar-dominated manufacturing countries in East Asia and the subcontinent.

At the time of the Brexit referendum in June 2016, Marks & Spencer, Debenhams, Arcadia, Next, John Lewis and House of Fraser had covered their forex needs for at least six months. Now, the cover is no longer and the trade is fully exposed to a relatively weak currency. To counter this, several middle-market retailers are already tipping polyester and acrylic into wool quantities to try to meet last year's price points.

THE MENSWEAR MOVEMENT

Menswear accounts for only 27% of the UK fashion market, but Mintel research suggests that the men's sector will see a growth figure of +12% over the next four years.

In another research paper, 58% of men surveyed agreed that sporty styles of clothing were acceptable for everyday wear. Whether this is good news for wool remains to be seen.

INGREDIENT BRANDING

Globalisation of garment manufacturing has increased the demand for quality wool fabrics and stimulated growth in "ingredient branding". European weavers have re-embraced the Woolmark brand as a highly respected quality assurance brand. The Woolmark Company is successfully bringing worsted spun yarns and fabrics into active sportswear and

promoting the natural qualities of merino in this growing sector. The sector's vulnerability to fibre substitution is, however, of considerable concern.

THE BOUTIQUE WOOL INDUSTRY

The UK is the second-largest apparel wool-consuming country per capita – after Italy.

The niche wool industry in Yorkshire, northern England, and Scotland is now a highly regarded supplier to luxury brands worldwide. The industry is currently expanding, as luxury labels are keen to retain proximity sourcing of high-quality fabrics and raw materials in a consumer market that asks ever more searching questions about the composition and construction of premium-priced fashion.



THE GREAT NORTHERN CLOTH

Agnes Gough is part of a group of Scottish wool producers who keep a breed of fine wool sheep known as the Scottish merino. Brita Hirsch, owner of Hirsch Tailoring, approached Gough on her quest to find a fine British wool to make 100% British cloth. Five of the Scottish merino producers supplied fleece from their 2016 wool clip for use in Hirsch's The Great Northern Cloth.

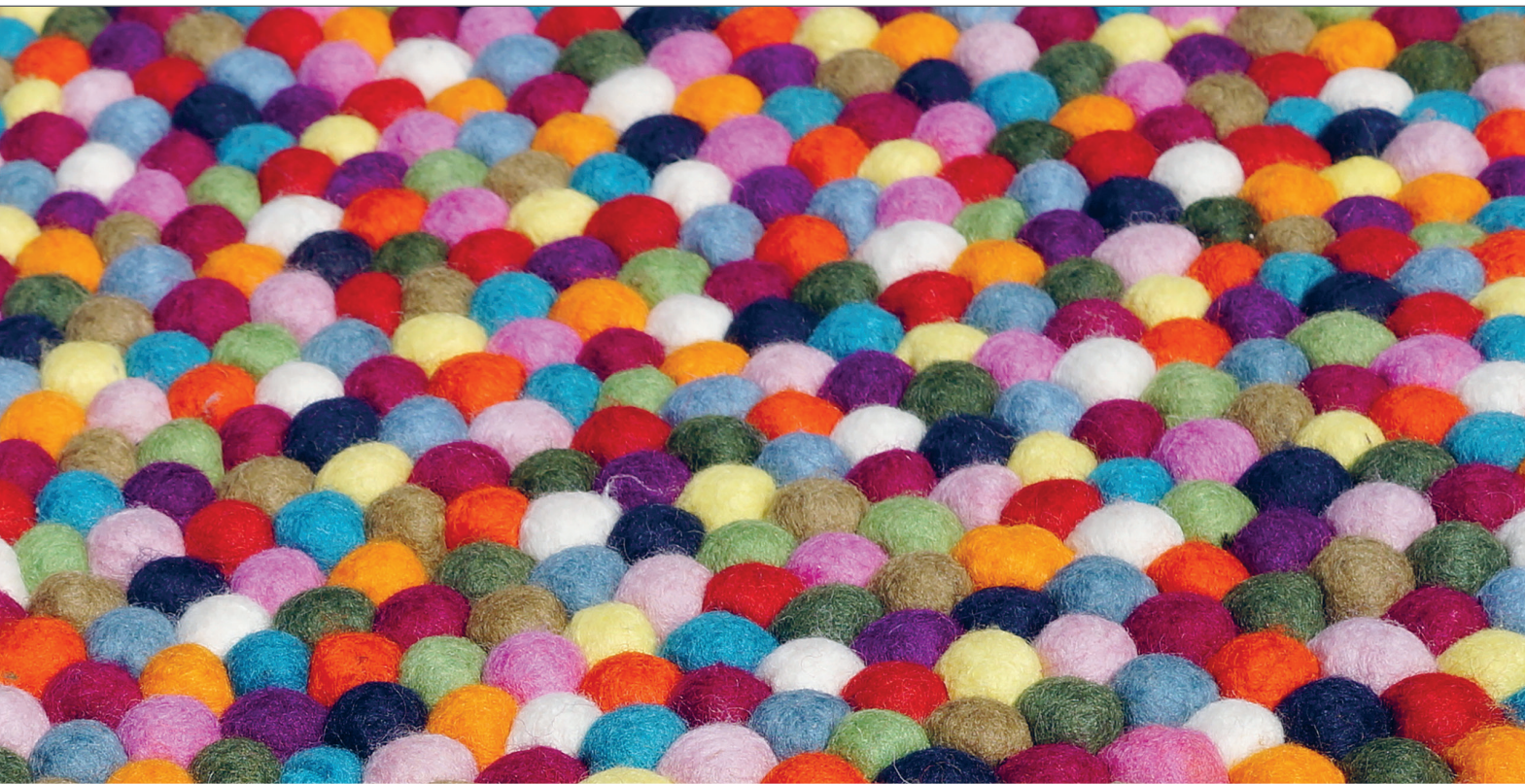
"The Scottish merino wool is special because it is rare for a British wool to lend itself for use in a fine, light-weight suiting cloth," says Hirsch. "The story of the sheep is remarkable and deserves appreciation in a high-end product."

The breed was created in the '90s by a leading fibre scientist, Dr Angus JF Russel, to improve the fleece of the native Shetland sheep by introducing Saxon merino genetics. The main Bowmont breeding flock was kept at the research farm, but a few satellite flocks were kept by Scottish producers at the same time to expand the number of breeding sheep and increase the quantity of wool more quickly.

"The right choice of material is key to everything I do, and sustainability is very important to me," says Hirsch. She found it difficult to source a cloth with all the characteristics of a tweed but with a lighter weight and softer feel, which is why she decided to commission a cloth. "My customers are increasingly conscious about British provenance. My dream scenario would be to establish a sustainable, exclusive range of beautiful fabrics produced from the Scottish merino. The supply would be limited by its natural scarcity, which would make it even more desirable."

• www.hirschtailoring.com





EDUCATION



PHOTO GALLO IMAGES / GETTY IMAGES

THE NANJING WOOL MARKET CONFERENCE



THE 29TH NANJING WOOL MARKET CONFERENCE, HELD IN SEPTEMBER 2017 IN TONGXIANG, CHINA, SUCCEEDED IN THE AIM TO OPEN UP THE WOOL INDUSTRY.



PHOTO NANJING WOOL MARKET

The Nanjing Wool Market Conference, which was organised by the China Wool Textile Association and China SDIC International Trade Co Ltd, and executive organised by Nanjing Wool Market and Zhejiang Redsun Wool Textile Co Ltd, attracted more than 500 participants from as far afield as Australia, New Zealand, South Africa, the UK, the USA, Canada, France, Italy, Argentina, Uruguay, Malaysia and Japan. Also incorporating the ninth Global Wool Summit and a day-long Wool Trade Fair, it was deemed a great success.

WOOL IN CHINA

The opening speech by Gao Yong, Head of the China National Textile and Apparel Council, revealed that Chinese fibre processing reached 54.2 million tonnes, though the proportion of wool textile processing was less than 1% of that (440 000 tonnes). Wool textile is nevertheless considered an essential part of the overall textile industry because of its sustainability and use in high-end products.

Yong emphasised that technology is improving and product innovation is becoming increasingly important. He said environmentally friendly dyeing techniques, applied electronics, international know-how and automation should be used widely to upgrade the textile industry.

SHOWING A PROFIT

According to the President of the China Wool Textile Association, Peng Yanli, the wool textile industry has shown good profitability. It was reported that from January to July 2017, the overall performance of 1 117 wool textile enterprises showed improvement.

PRODUCT INNOVATION IS BECOMING INCREASINGLY IMPORTANT

The total business income was ¥127.9 billion, 3.24% higher year on year (and growing 0.74 percentage points on last year). Total profit for wool textile enterprises was ¥6.5 billion, 6% higher year on year (2.02 percentage points lower).

NEW OPPORTUNITIES

Yang Xiaoxiong, Chair of the Nanjing Wool Market, shared her views on China's wool textile market. "The wool industry is facing a reshuffle," she said. When the Zhangjiagang Free Trade Zone was set up in October 1992, there were six woolen mills, but three have since closed. Production has not, however, decreased, because the larger enterprises have taken over the machinery and increased their capacity. "There will be some challenges for the wool industry," she said, "but there will also be opportunities."

• www.woolmarket.com.cn/en

Nanjing Wool Market announced a new e-trading platform, TTX World, at the conference.

A BRIGHT FUTURE FOR WOOL

ONE OF THE YOUNG PROFESSIONALS WHO ATTENDED THE ITWO CONGRESS 2017 IN HARROGATE SHARES HIS EXPERIENCE.



FABIAN KNAPPIK
WOOL TRADER,
GLOBAL WOOL

I have worked at Global Wool GmbH, a trading company situated in the triangle of Hamburg, Bremen and Hannover, since 2011. My job involves the import and export business, and our team consists of only four people. Due to our flat internal hierarchy, I have responsibilities in trading, administration and logistics. We buy about 180 different qualities of wool from about 25 sources in order to offer our clients a wide variety.

We supply wool tops, open tops, carbonised wool, carbonised noils, scoured wool, greasy wool, wool waste, spinning waste, synthetic waste and selected qualities of speciality fibres. We also carry stocks of about 1.5 to 2.0 tonnes throughout the whole year in the port city of Bremen. Metaphorically speaking, we operate like a grocery store where our clients can combine various qualities in a single delivery.

It's challenging yet fascinating to serve a wide variety of qualities to a variety of clients, which include

spinning mills, felting mills and bedding manufacturers.

I need to be familiar with our portfolio of products on a daily basis and stay informed about the current market indicators overseas, seasonal changes, and the needs and trends of our clients' industries. Interacting with suppliers and clients is an essential part of my job so as to keep informed and up to date, which makes the IWTO Congress a very important annual event.

The 2017 Congress in Harrogate was the first of hopefully many attendances for me. As a young professional, I appreciated the friendly atmosphere, the opportunity for networking within the industry, and being able to meet other young professionals who are taking on responsible positions in this business.

There was a strong focus on embracing the digital age and welcoming a more modern approach, which I think is relevant and an issue that will continue to be a challenge, in our branch as well. Two other topics under discussion were transparency in the supply chain and animal welfare, both of which are issues getting more and more attention from consumers.

The Conference created a great opportunity for learning from the experts. In addition to the regular IWTO programme, we had time to interact with industry professionals, individual mentors and officials of the organisation.

I also enjoyed exploring the town of Harrogate and its cosy restaurants and pubs. I'm looking forward to the next conference.

INTERNATIONAL TEXTILE FLOORING ACADEMY (ITFA) TO LAUNCH

This new technical and vocational company, with its headquarters in the UK, will focus on training and skills in the flooring sector. It will be an asset to an industry that currently has no central focus for the complex and vital technical skills necessary for the wool textile industry. It will also focus on how to promote better understanding of wool textile products to designers, architects and retailers.

The founders, product developer Malcolm Sims and Paul Bakker, Chairman of The WoolSafe Organisation, are both long-standing textile industry professionals with a wealth of knowledge.

The Academy's educational programmes will cover the entire industry, including yarn, carpet and rug manufacturing, installation, aftercare, product marketing and recycling. Although much of the training offered by ITFA will be accessible online, the Academy's highly qualified instructors will also provide a wide range of services on a one-to-one basis to meet individual business needs.

"We have had very positive feedback from our many contacts with whom we've discussed this exciting new initiative," says Sims. "This is a huge industry and there is very little education or information currently offered in a structured way. We hope ITFA will change that and become a valuable asset for the future success of wool textile businesses."

• www.itfacademy.org



MALCOLM SIMS
PRODUCT DEVELOPER,
MALCOLM SIMS &
ASSOCIATES



PAUL BAKKER
CHAIRMAN OF
THE WOOLSAFE
ORGANISATION

THE WOOL MARKET IN REVIEW

A FEAST FOR MERINO WOOL AND FAMINE FOR CROSSBRED WOOL –
WHERE TO IN 2018?



CHRIS WILCOX
WOOL AND
AGRICULTURAL
ECONOMIST
AND ANALYST

Merino wool benefitted from a strong raw wool demand, driven by China's mills supported by Europe. This pushed merino wool prices to high levels in Australia and South Africa, with the strongest gains seen for superfine wool.

But it was a famine for broader, crossbred wool, with demand falling away sharply as mills in China shunned these wools. Even though other countries lifted their purchases, this was not enough to offset the drop in China's demand. This caused wool prices to fall sharply in New Zealand and in the UK. There were tentative signs that export demand from New Zealand and Uruguay started to pick up in August/September 2017.

Whereas demand for merino raw wool increased, global trade in semi-processed and finished wool products was patchy in 2016. The highlight was the third consecutive year of growth in the global trade in wool womenswear. The dampener was a decline in trade in wool menswear. Knitwear trade was steady. This uneven pattern in trade may have continued in 2017.

On the one hand, China reported a strong growth in its exports of woven wool garments in the 2017 year to September, mainly to African countries because of the Chinese government's One Belt and One Road initiative. On the other hand, the data on US imports of wool clothing in the year to September shows a continuing decline in imports.

INDUSTRY SURVEY

The IWTO Wool Textile Industry Conditions survey shows business conditions generally improved at the end of 2016 and in

the first quarter of 2017. Survey respondents reported a strong improvement in the early stage processing, spinning, weaving and knitting sectors through 2016 and into 2017. The garment sector was volatile but still above "normal". In contrast, the interior textile sector reported subdued conditions from the end of 2016 continuing into 2017.

The survey results also suggest stocks held within the industry were generally under control or even a little low in the first quarter of 2017. This meant, in addition to the increased activity levels, there was scope to lift purchases of raw wool to replenish the empty pipeline. The results from the 2017 survey are in line with the lift in raw wool prices and in raw wool demand in the second half of 2016 and in 2017.

Prices for some of the major rival fibres lifted in US dollar terms in 2016, and this rise continued in 2017. The most significant increase was seen for acrylic. Cotton prices also rose solidly as excess stocks finally started to show signs of easing. Polyester staple and viscose fibres also lifted. In contrast, some of the luxury natural fibres that compete with superfine wool, including cashmere, saw significant falls.

These price changes meant superfine wool price relativity with the major competing fibres hit record levels in 2017. The price relativity for medium merino wool remained at high levels, whereas the price relativity for broader wools slumped.

FOUR KEY FACTORS THAT WILL IMPACT THE WOOL MARKET IN 2018

1. Consumer confidence in the US is near a 16-year high, and in the EU it is at its highest since before the global financial crisis. This creates a good platform for sales. For merino wool prices to be sustained at the current high levels, we will need to see a continued improvement in the growth rate of retail sales of clothing in the EU, the US, Japan and China. For crossbred wool, retail sales of soft furnishings are showing signs of good growth, notably in the UK and China.

2. The second factor is the impact of the high price relativity of merino wool against other fibres, and the low price relativity for broader crossbred wool against these competing fibres. Changes in the market in the past 20 years, including the low availability of merino wool, means the historical price relativities are no longer relevant.

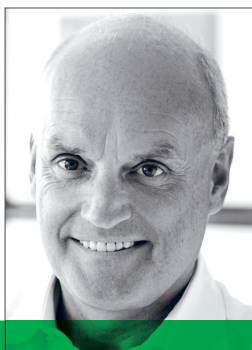
3. Supply will be another key factor. Australian wool production is predicted to remain steady in 2017/18, and an increase in production in South Africa is expected to be offset by a dip in production in Argentina. Stocks of merino wool in the major producing countries are thought to be low, whereas stocks of crossbred wool are reported to have built up. This means merino wool supply will be restrained, which will help support prices. In contrast, if demand for crossbred wool does recover, stocks will be released, dampening the potential improvement in prices.

4. The level of stocks held in the wool textile pipeline will be critical to the prospects for raw wool demand and prices for both merino and crossbred wool.



THE DUMFRIES HOUSE DECLARATION

ENSURES THAT KEY PLAYERS, FROM SHEPHERDS TO SHOP OWNERS, **COMMIT TO PROTECTING THE ENVIRONMENT AND UPHOLDING THE BEST POSSIBLE PRACTICES FOR SHEEP WELFARE, COMMERCE AND INDUSTRY.**



NICHOLAS COLERIDGE
CHAIRMAN OF THE
CAMPAIGN FOR WOOL

ON 9 September 2016, His Royal Highness The Prince of Wales, as Patron of the Campaign for Wool in association with Marks & Spencer, hosted the historic Dumfries House Wool Conference in Ayrshire, Scotland.

The conference brought together 250 leading members of the wool industry supply chain, from farm to store, to discuss the current challenges facing wool and how its further use can benefit the planet.

In his address to the conference, The Prince of Wales officially endorsed the Dumfries House Declaration, a 10-point declaration of intent to support an environmentally responsible, sustainable and commercially viable wool industry.

The document, created in conjunction with the Campaign for Wool and the IWTO, seeks to become the recognised standard of best practice in the wool industry. By pledging support for this declaration, companies commit to abiding by the 10 principles of best practice set out in the document.



PETER ACKROYD
IWTO PRESIDENT



邓姆福瑞宫羊毛宣言

2016年9月9日

邓姆福瑞宫会议签署

作为羊毛运动的出资国，我们特在此声明支持邓姆福瑞宫羊毛宣言。

1、羊毛是纯天然的

羊毛是绵羊身上自然生长的与人类毛发相近的天然蛋白质纤维。

2、羊毛是可再生的资源

绵羊通过摄取简单的水、空气、阳光以及青草，即可每年产出新的羊毛，而不会耗尽有限的自然资源。

3、羊毛是生态系统碳循环过程的组成部分

绵羊在摄取食物时将植物所含的有机碳转化为其身体的有机碳存在，包括羊毛中的有机碳。绵羊毛的化学元素含量中有机碳约占50%，可稳定存在直到羊毛自然生态降解。

4、羊毛更经久耐用

研究表明，羊毛服装的使用寿命为2-10年，而其他纤维制成的服装则为2-3年，是可替代浪费型消费模式的天然产品。

5、羊毛可循环利用

羊毛纤维质量好，耐用性高，能够循环利用，最终减少垃圾填埋。再利用的羊毛制品通常制成粗纺纺织品、绝缘材料和土工纺织品等等，都有利于促进循环经济。

6、羊毛可生物降解

羊毛的降解只需几年时间，并将氮基营养物质释放回土壤中。

7、羊毛天然防臭

羊毛服装能够吸收湿气，带走皮肤表面的汗水，减少引起异味的细菌。由于羊毛天然的防污和抗菌性，羊毛衣服在两次洗涤之间的穿着时间更长。

8、羊毛耐高温，具有阻燃性

羊毛的天然细胞结构中氮、水含量高，需要高浓度的氧气才能致燃。同时，羊毛在受热时形成绝缘层，防止火焰蔓延。羊毛在超高温下即不熔融滴落，也不会粘在皮肤上，且在燃烧过程中产生的烟雾和毒气较少。

9、羊毛改善室内空气质量

当使用羊毛制室内纺织品，如地毯和室内装饰品时，羊毛可比其它纤维更快地吸收和锁住空气中的挥发性有机化合物（VOC）等污染物。

10、羊毛保障动物福利

阿根廷、澳大利亚、新西兰、挪威、南非、英国、美国以及乌拉圭等主要产毛国家都支持国际毛纺织组织（IWTO）和羊毛运动，这些国家都遵循了最严格的动物福利标准，即IWTO毛用羊动物福利规范的具体规定。IWTO毛用羊动物福利规范以世界动物卫生组织（OIE）提出的“动物福利五大自由”为前提，即使动物免于饥渴；免受不适；免受痛苦、伤害和疾病；自由表达正常行为以及不受到恐惧和惊吓。“五大自由”同时也是以上产毛国严格执行的国家动物福利立法的基础。

关于IWTO

国际毛纺织组织（IWTO）拥有世界范围内从绵羊生产到销售终端整条羊毛产业链的成员，它代表了全球羊毛贸易的利益。通过促进研发和发展纺织行业标准，IWTO维护着羊毛的可持续性未来发展。请访问www.iwto.org了解IWTO及其活动的更多信息。

Wal Merriman
澳大利亚羊毛发展公司主席

Stuart McCullough
澳大利亚羊毛发展公司主席首席执行官

Ian Buchanan
英国羊毛销售局主席

Joe Farren
英国羊毛销售局首席执行官

George de Kock
南非羊毛局主席

Louis de Beer
南非羊毛局首席执行官

Craig Smith
羊毛运动新西兰信托会主席

Philippa Wright -
全球羊毛运动执委

注：2016年9月9日，羊毛运动委员会在英国苏格兰的邓姆福瑞宫举行了会议，有关出资国共同起草并签署了《邓姆福瑞宫羊毛宣言》





WOOL SHEEP WELFARE: FAQs

THE IWTO SUSTAINABLE PRACTICES WORKING GROUP ANSWERS QUESTIONS ON HOW THE WOOL INDUSTRY ENSURES SUSTAINABILITY.



NICOLE WIDMANN
MASTER'S STUDENT IN
CORPORATE RESPONSIBILITY
AT FHNW UNIVERSITY OF
APPLIED SCIENCES AND ARTS
NORTHWESTERN SWITZERLAND

What do you consider the industry's main sustainability issues?

When raw materials are sourced from animals, the welfare and environmental credentials need to be above scrutiny, and supporting documentation should be available for corporate social responsibility audits. Due to the fact wool is grown all over the world, in various countries with different climatic conditions, ways of farming (from communal to commercial), cultures and laws, one global standard for wool sheep welfare is not possible.

Do some members of IWTO face more sheep welfare issues than others?

Our membership encompasses the entire wool textile pipeline. National committees include Argentina, Australia, China, Germany, Italy, New Zealand, South Africa, Turkey, the UK, Uruguay and the USA. Associate members include wool brokers, spinners, retail brands and textile manufacturers. The abuse of animals is a criminal offence and, while the laws for each country differ, the wool industries of the member countries adhere to the specific local laws.

What do you consider humane animal treatment?

The term "animal welfare" is best described by the World Organisation of Animal Health in the Health Code for Terrestrial Animals: "Animal welfare relates to how the animal is coping with the conditions that surround it. The welfare of an animal (evaluated in accordance with scientific evidence) is considered satisfactory if the following criteria are met: good health, sufficient comfort, good nutrition, safety, possibility of expression of natural behaviour, and lack of suffering pain, fear or distress."

Are there regulations that establish standards for animal health?

The World Trade Organisation (WTO) formulated the Agreement on Sanitary and Phytosanitary Measures in 1994. "The agreement recognises that governments have the right to take sanitary and phytosanitary measures, but that it should be applied only to the extent necessary to protect human, animal or plant life or health and should not arbitrarily or unjustifiably discriminate between members, where identical or similar conditions prevail."

The WTO requires its members to base their food and animal health safety measures on international standards, guidelines and recommendations, but gives local governments the right to decide what measures fit their circumstances and environment best. Documents such as the International Animal Health Code are intended to be used as reference by the veterinary administrations or authorities of member countries.

Are there alternatives to the practice of mulesing?

Wool is sold through an auction system and buyers have options such as mules-free, mulesing with pain relief, and mulesed wool. Full traceability exists, and a certificate of origin is proof of a specific clip's production path.

Market trends determine the demand for each of these categories, and wool sheep farmers will adjust their production methods to satisfy specific market needs.

Australian sheep farmers have roughly 72 million sheep under their care, and 40% of lambs born each year are mulesed to reduce the risk of animals being affected by breech flystrike. This is a 30-second operation that offers the animal considerable protection for the rest of its life. Australian sheep farmers have spent millions over the last decade to find new ways to improve lifetime welfare, reduce the risk of breech flystrike and reduce reliance on mulesing. Breeding lower breech wrinkle sheep, more frequent crutching and using improved prevention chemicals are the main alternatives used to date.

China is the second-biggest player in the wool market. How does it fare in terms of animal welfare standards?

China currently has no animal welfare legislation. Various animal welfare and animal rights associations do exist, and the animal protection movement is growing, especially among the younger generation.

Have you ever warned wool producers about the conditions and treatment of their sheep?

The original IWTO Guidelines for Wool Sheep Welfare were developed in 2013 through the IWTO Sustainable Practices Working Group. The Guidelines take local laws into account and offer best practice solutions over and above existing legislation. This document was updated in 2016. The IWTO Specifications for Wool Sheep Welfare is a living document, compiled by its members – the farmers who practice these principles on the land every day – and updated regularly. IWTO is not a legal entity and does not have the legislative status to enforce laws.



THIS LAND IS WOOL'S LAND



The American spirit is alive in the fiber, fleece and fabric of natural American wool. This is where happy, healthy sheep are raised to thrive in vast, open rangelands. It's where bold shepherds and ranchers are genuine stewards of the earth—constantly seeking sustainable ways to ensure the future of this invaluable industry.

This is America, where innovation is celebrated, tradition is respected and high performance reigns.

Unparalleled Loft / Exceptional Versatility / Never Mulesed

sheepusa.org • americanwool.org

Copyright 2016 American Sheep Industry Association



AMERICAN WOOL

American Wool Council, a division of American Sheep Industry Association