Shear waste: The market potential of organic wool from Wales

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Acknowledgements

This report is part of a wider project to explore and promote the potential of organic Welsh wool – www.organicwoolwales.org.uk. Authored by Juliet Morris, who runs an organic farm in Carmarthenshire with a particular interest in wool, it draws on the experience of a number of wool businesses in Wales, especially those working with organic wool, as well as the views of the wider industry, both within Wales and beyond, including primary producers, processors, manufacturers, retailers and certification bodies.

Special thanks is due to BOBL for providing financial assistance to the project, with specific recognition of Project Officers Lucy Watkins and Tony Little, whose support and enthusiasm for the project has been invaluable.

Even greater thanks is owed to the designers and makers who freely gave their talent, creativity, skill and commitment to the Organic Wool Wales Fabric Collection, photographs of which run through this report.

Funding

The Better Organic Business Links (BOBL) project, run by Organic Centre Wales, is a four year project designed to support the primary producer in Wales and grow the market for Welsh organic produce in a sustainable way. The aim is to develop markets for organic produce whilst driving innovation and promoting sustainable behaviours at all levels within the supply chain, to increase consumer demand and thence markets for organic produce, especially in the home market, and to ensure that the primary producers are aware of market demands. The project provides valuable market information to primary producers and the organic sector in general.

Delivery of the project is divided into five main areas of work:

1. Fostering innovation and improving supply chain linkages
2. Consumer information and image development of organic food and farming in Wales
3. Market development
4. Providing market intelligence to improve the industry’s level of understanding of market trends and means of influencing consumer behaviour
5. Addressing key structural problems within the sector.

In all elements of the work, the team are focused on building capacity within the organic sector, to ensure that the project leaves a legacy of processors and primary producers with improved business and environmental skills, able to respond to changing market conditions, consumer demands and climate change.

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EXECUTIVE SUMMARY

Organic wool: the context
British wool prices have transformed in the past four years, reaching a record 25 year high in 2011. The British Wool Marketing Board, that handles almost the entirety of the UK wool clip, is confident that the strengthening market is an underlying, long term trend. Simultaneously, demand from manufacturers and consumers for materials that are natural, sustainable, environment-and welfare-friendly in origin, is strengthening. UK sales from the organic textiles sector alone is valued in excess of £100 million.

This report explores the growing markets for British wool and organic textiles, and seeks to understand why organic wool remains largely invisible and the sustainability of its associated business sector so fragile.

- **Wool: the context** identifies the intrinsic linkages between organic Welsh wool and the mainstream wool sector. It highlights the economies of scale achieved by the global supply chain and offers a reminder of the inherent properties of wool, especially British wool, which have sustained the industry for centuries.

- **Defining Organic Wool** clarifies the legal status of organic wool and points out inconsistencies in standards set by the various control bodies for wool producers and processors. It maps the organic wool supply chain in Wales and the UK, from farm to finished product.

- **The Wider Market** reviews the resurgent interest in wool and the role of the Campaign for Wool. It surveys wider business and consumer trends that are driving demand for goods that are ‘eco-ethical’, welfare-friendly, local, traceable and organic. The entirety combines to suggest a highly conducive market for organic Welsh wool.

- **For Farmers: Obstacles and Opportunities** examines practical ways of improving the quality and financial value of the farm’s organic clip. It looks at alternative routes to market and ‘added value’ options, as well as the role the Wool Board and the advantages of strengthening its organic sales. It highlights collaborative wool producer and supply chain initiatives elsewhere and the recent Organic Wool Wales project’s experience of commissioning UK-made organic Welsh wool fabric and securing the ready support of designers and consumers.

It concludes by asserting the need to scale up the supply of certified organic fleece and the volume of processing in order to drive up the demand for and price of organic Welsh wool. It recommends key actions for organic control bodies, organic businesses and organic farmers to unlock the potential and value of organic raw fleece and support the sector’s further development.
INTRODUCTION

Organic wool: the market context
British wool prices have transformed in the past four years, reaching a record 25 year high in 2011. Despite turbulence in 2012, the British Wool Marketing Board (the Wool Board) is confident that the strengthening market is an underlying, long term trend.

UK sales of organic textiles have experienced similar fortunes, bucking the recent downturn in organic food sales and are now valued in excess of £100 million. Soil Association licensees saw turnover rise to £12 million in 2011/12, a six fold increase on figures four years previously. They report a further 10 per cent rise in 2012/13. There are also wider market trends that suggest new value is being attached, by consumers and industry alike, to products that are sustainable, natural, local, environment-and welfare-friendly in origin.

Organic (imported) cotton continues to dominate the organic textiles market, accounting for over 90 per cent of organic textiles sales. Wool, along with linen and other natural fibres, makes up 8 per cent. No organic premium is paid to organic wool producers for their fleece. Despite a small increase last year, the Wool Board is handling less organic wool now than it was three years previously.

Organic wool has a direct relationship to both wool and organic textiles markets yet appears to be neither a beneficiary nor, indeed, a feature of either success story.

Purpose of the report
Shear Waste: the market potential of organic wool from Wales sets out to explore how organic wool producers, and businesses, might take advantage of the strengthening demand for British wool and organic textiles. It aims to:

i. clarify the legal framework and certification of organic wool, from raw fleece to finished textiles;

ii. identify the strengthening markets for British wool and organic textiles and the potential for organic wool from Wales;

iii. consider the opportunities and barriers to the wider production, processing and availability of organic Welsh wool;

iv. recommend practical and policy solutions to support organic wool producers and the further development of the organic wool sector in Wales.

In line with the ambitions of the wider BOBL project, the report seeks to address the obstacles and explore opportunities for both primary producers (organic farmers) and businesses in Wales, providing information and identifying opportunities to support their
growth, profitability and sustainability, paying particular attention to the potential for collaboration.

The Organic Welsh Wool Project
Shear Waste sits alongside a practical project to test, showcase and promote the availability and potential of organic Welsh wool to producers, designers and consumers. The organic Welsh Wool Fabric Collection puts the theory of the report into practice, testing both supply chain and market by:

- commissioning a length of finished woven wool fabric using organic (longwool/hill-cross) fleece, farmed in Wales and processed to certified Global Organic Textile Standards;
- displaying the finished fabric as the centre piece to a Wonderwool Wales display stand (April 2012), promoting the availability and advantages of organic wool to consumers, designers and producers and canvassing the possibilities for support;
- recruiting textiles designers and makers with an interest in using natural and sustainable materials to collaborate over the development of an Organic Welsh Wool collection using the available fabric;
- showcasing the finished collection at Wonderwool Wales 2013 and other relevant events throughout the year;
- raising awareness, through social and conventional media, and building, along the way, a coalition of support for organic Welsh wool that embraces producers, processors, weavers, designers, retailers and consumers.
WOOL: THE CONTEXT

The global market
There is a tangible sense of revival about the wool industry. After years in which farmers have resigned themselves to the annual ignominy of a fleece costing more to shear than its financial worth, wool is back in business. In truth, the industry was never out of business. But the possibility of ending the decades of decline serves to highlight the modern world’s failure to grasp, and properly exploit, the intrinsic value of one of nature’s greatest raw materials.

Wool is one of the world’s oldest internationally traded commodities. Until the 18th Century, wool farming and cloth weaving underpinned the British economy. Its importance is evident in the efforts of governments, throughout history and across the sheep-producing world, to control the industry in order to retain and maximise the benefits of the nation’s own wool production and associated processing infrastructure.

Notwithstanding its displacement by cheaper synthetic textiles developed in the 20th Century, wool has endured. It continues to command economic attention in a global market: the composite efforts of half a million farms in 100 countries with 1.1 billion sheep producing a global total of 1.2 million tonnes of raw wool every yearm.

- Australia produces about a quarter of the world’s wool;
- China is the second largest producer as well as its largest consumer, using about 60 per cent of the world’s wool;
- At individual level, producers range from vast sheep station grazing operations to family farms and smallholders.

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Source: British Wool Marketing Board - Wool Statistics Fact Sheet (2013)
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The domestic market
The UK’s relative contribution to world production has declined in recent years. Having ranked seventh amongst the world’s largest producers in 2008\(^\text{vii}\), the 2010 figures show a fall to eleventh place representing about two per cent of the world total. The UK clip weighs some 37 million kilos, reflecting the combined output of 50,000 individual farms from 32 million sheep\(^\text{viii}\), over a quarter of which are farmed in Wales\(^\text{ix}\).

Almost all the wool produced in the UK is sold by the British Wool Marketing Board. From its auction rooms in Bradford, our wool enters a global supply chain of mass processors and manufacturers in minimum lots of 2 tonnes.

The scale and economics of the wool industry, the global distribution of skills, mills and machinery in particular, is such that organic and conventionally farmed fleece share a supply chain. The substantive fortunes of Welsh organic wool are intrinsically linked to those of the wider wool sector and the potential for the organic wool sector impossible to consider without some understanding of the conventional, macro-sector of which it is a part.

Wool quality and value
Wool, by its very nature, is one of the most versatile fibres in the world. It is inherently:

- renewable and biodegradable;
- lightweight and bulky;
- dirt resistant, anti-static and water repellent;
- insulating, hygroscopic, breathable and hypo-allergenic;
- fire resistant and UV protecting;
- non-wrinkling, elastic, reshaping and durable - a wool fibre can be bent 20,000 times without breaking and still have the power to recover and return to its natural shape\(^x\).

Typically, wool quality focuses on the diameter of the fibre (the micron count), the length of the fibre and its crimp (the fibre’s natural ‘wave’). Merino wool, from Australia and New Zealand in the main, is generally regarded as the finest and softest sheep wool in the world: it has a count of less than 24 microns in diameter whilst most British breeds exceed 32.

Judging the value of wool against a standard appropriate to fine knitwear is to disregard the wide diversity of potential uses – from the domestic to the industrial – and the
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transformational contribution of processing, especially to finished woven cloth. The popular perception that British wool is comparatively worthless because ‘70 per cent is only suitable for carpets’ underestimates the importance of fibres and textiles beyond clothing. It also ignores the volumetrics: the niggardly 30 per cent actually amounts to 7 million tonnes of British wool that is suitable for apparel and clothing!

British wool
Fleece quality is closely associated with, but not limited to, the breed of sheep. It reflects the landscape that has shaped the breed and is readily influenced through genetics. This potential for manipulation has been exploited by generations of sheep farmers. In contrast to today’s improvements to the national flock which are based, almost exclusively, on market determinants for a meat carcass, wool quality was the main criteria used in sheep breeding up until the 19th Century\textsuperscript{xii}.

This combination of the UK’s diverse topography and sheep breeding for wool has resulted in a greater number of sheep breeds and greater diversity between breeds than anywhere else in the world – and a legacy of a uniquely rich and diverse wool clip. According to the Wool Board: “The wide variegation in the fleece and the suitability of certain breeds to certain areas is a phenomenon unique to British sheep breeds.”\textsuperscript{xii} With more than 60 pedigrees as well as a multiplicity of established cross and halfbreds, the Board categorises fleece into seven main groups. All have an end use – and a value:

<table>
<thead>
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<th>BWMB Category</th>
<th>Example British breeds</th>
<th>Main end use</th>
<th>2011 clip value range</th>
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<tbody>
<tr>
<td>Mountain</td>
<td>Welsh Mountain, Blackface</td>
<td>Carpets</td>
<td>45p - £1.31/kg</td>
</tr>
<tr>
<td>Hill</td>
<td>Beulah, Hill Radnor, Cheviot</td>
<td>Blankets, knitwear, tweed, carpets,</td>
<td>96p - £1.63/kg</td>
</tr>
<tr>
<td>Cross</td>
<td>Mule</td>
<td>Carpets</td>
<td>£1.36 - £1.50/kg</td>
</tr>
<tr>
<td>Medium</td>
<td>Romney, Lleyn, Texel</td>
<td>Blankets, knitwear, carpets</td>
<td>£1.21 - £1.55/kg</td>
</tr>
<tr>
<td>Fine</td>
<td>Suffolk, Clun Forest</td>
<td>Knitwear, woven cloth, futons</td>
<td>£1.12 - £1.39</td>
</tr>
<tr>
<td>Lustre</td>
<td>Bluefaced Leicester, Wensleydale</td>
<td>Handknitting yarn</td>
<td>£1.11 - £3.80/kg</td>
</tr>
<tr>
<td>Coloured</td>
<td>Jacob, Black Welsh Mountain</td>
<td>Clothing, carpets, handspinning</td>
<td>41p - £3.74/kg</td>
</tr>
</tbody>
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Source: BWMB Fact sheets - British Sheep Breeds and Their Wool (2012)
DEFINING ORGANIC WOOL

The legal position

Organic agriculture is subject to a strict regulatory framework with a high degree of international agreement. The baseline standards are defined by umbrella body, the International Federation of Organic Agriculture Movements (IFOAM) and built on four key principles - health, ecology, fairness and care. They are designed to ‘inspire action’ and, as such, extend beyond agriculture to provide a broad ethical basis to the production, processing, trading and consumption of organic produce.

In Europe, a clear legal framework has been defined in regulations on organic production and processing, and the labelling of organic products. Here, they are brought into legal effect via secondary legislation and guidance issued by the UK Government and devolved administrations.

The scope of the law in relation to food is clear: ‘organic food’ is a legally defined term with specific application and protection. In relation to wool, the legal status is qualified: it extends only to the point at which it is an ‘unprocessed agriculture product’ i.e. raw fleece.

“The Regulations cover live or unprocessed agricultural and aquaculture products and processed agricultural and aquaculture products for use as food or feed. The Regulations do not cover products which have been processed into other products which are not food or feed, for example, textiles or personal care items, nor do they cover forestry products or medicinal products”.

Source: DEFRA Guidance Document on EU Organic Standards (January 2010)

This explicit omission of processed wool from both UK and EU regulations means that, unlike organic food, organic wool is neither defined nor protected in law. Nor is the possibility of its use recognised in the UK Government’s recently published guidance on textiles labelling.

In theory, therefore, anyone can claim that their wool is ‘organic’. In practice, there are other forces at play.

i. The Wool Board is the biggest buyer of organic fleece in the UK. It now requires evidence of organic certification before it will accept a wool sack’s organic status.

ii. The Advertising Standards Authority (ASA) adjudicates on claims made in product marketing. It has, in a number of cases, established a clear precedent in relation to the use of the word ‘organic’ to describe non-food products which, like wool, fall outside the legal scope of the organic regulations.
“The ASA considered that consumers would understand the claims that the candles were “organic” to mean that the product met an independently defined standard or used a high proportion of organic ingredients. We considered that in the absence of a defined “organic” standard for candle products, evidence would need to be provided to demonstrate that the majority of the ingredients had been certified organic by an independent organic certification body”.

Source: ASA Adjudication on NEOM Ltd (January 2013)

The effect of the ASA’s decisions is such that ‘organic wool’ products are likely to require some objective substantiation in order to satisfy consumer expectations of ‘an independently defined organic standard’: organic certification at farm level would seem likely to be the minimum. It may also be that the existence of an internationally agreed organic textile processing standard (below) may raise the ASA’s requirements for ‘organic wool’ claims to be substantiated by independent processing standards too. A test case would be helpful.

Organic fleece: on the farm

The basic nature of a fleece is largely determined by breed and genetics. The way in which it is managed ‘on the hoof’ has a fundamental role to play in whether it achieves its potential. The nutrition, health status, general welfare and well-being of the sheep during the year all have a direct correlation between the quality and volume of its fleece.

There appears to be no research into the existence of any qualitative difference between organically and conventionally farmed wool. Given that the evidence base in relation to food remains strongly suggestive of links between organic husbandry and food properties - there are fewer pesticide residues in organic produce and higher levels of omega-3 fatty acids in organic milkxiv - it would seem more than idle speculation to suggest a difference is possible. In the absence of evidence, of course, no claims can be made. Like organic food, the only definitive difference between organic and conventionally farmed fleece is the way in which it has been produced.

Certification: on the farm

Notwithstanding the direct influence farming practice has over fleece quality, there is nothing in either the IFOAM organic standards or the UK Organic Standards specific to wool management on the farm. This leaves it open to the discretion of the individual organic control bodies to specify their own compliance standards in relation to wool.

There are five control bodies of relevance to producers in Wales. The way in which they treat wool differs considerably:

- two make no provision for organic wool as a potential product;
- one permits the labelling of organic wool but has no specific production standards;
- one specifies organic wool is from lamb/sheep born on an organic holding;
one requires organic wool to be listed as a product and includes a range of specifications in relation to the management of the fleece.

This degree of variation amongst the control bodies does little to provide any sense of distinction or value in organic wool, or acknowledge the extent to which the organic standards themselves influence farmers’ freedom to prioritise and manage their wool on the hoof. For example, the organic standards:

- encourage breeds to be chosen on the basis of suitability to the farm’s location — which may deter a choice of breed specifically for its wool;
- encourage the integration of sheep into arable and field crop rotations — which may render fleece highly vulnerable to contamination and damage from mud as sheep graze stubble aftermath and turnips;
- restrict the amount of time spent housed - which may preclude the possibility of twice yearly shearing.

A greater cause for concern is the lack of clarity amongst control bodies as to external fleece treatments. Only SA Cert addresses the implications of chemical applications for the organic processing chain which sets out its own raw fleece residue limits (below). It applies, in effect, the need for a ‘withdrawal period’ (to the date of shearing) in order to limit the potential for pesticide residue on the shorn organic fleece. Its standards assert that “synthetic pyrethroid treatments used up to 12 months before shearing are likely to result in residues over 0.5mg/kg”\[^{15}\]. This suggests that fleece from organic sheep treated at any time during the year may not meet the standards required by the subsequent organic processing chain - and yet still be certified organic by most control bodies.

Finally, the opportunity is missed by all the control bodies to clarify the unacceptability, within the organic standards, of a practice that has caused greatest public concern about the wool industry i.e. mulesing, the surgical removal of an area of skin around a sheep’s tail in order that scar tissue replace fleece-growing skin and reduces the animals’ vulnerability to flystrike without the need for dagging.
## Control Bodies’ Organic Standards: Production

### Bio-Dynamic Agricultural Association (BDAA)

**Production standards:**
Certification of wool is only possible when a sheep can be verified to be born and raised in a Demeter or organic certified flock. In practice this means that certified wool must come from either closed flocks, flocks in which bought in sheep were born and raised on certified holdings, or the first shearing of sheep born and raised on the certified holding. (Standard 5.4.2)

**Fleece treatments:**
Forbids the prophylactic or remedial use of organophosphates as a veterinary treatment for instance, against myasis on sheep, or against other external animal parasites. (Standard 5.8)

### Organic Farmers & Growers Ltd (OF&G)

**Production standards:**
Allows wool to be labelled as an ‘organic product’ and, subject to determination on a case-by-case basis, carry the OF&G logo (Standard 4.5.1)

**Fleece treatments:**
Where justified in the Health Plan, allows the use of veterinary treatments for external parasites including:
- the topical application of synthetic pyrethroid insecticides against biting flies, lice, ticks, etc.
- synthetic pyrethroid insecticide as a dip for scab;
- Cyromazin as a preventative treatment in high risk areas for blowfly strike.

Pour-on treatments should be avoided if possible due to the concentrated nature of the chemical. (Standard 8.5.26)

### Organic Food Federation (OFF)

**Production standards:**
No mention.

**Fleece treatments:**
No mention.
### Quality Welsh Foods Certification Ltd (QWFC)

**Production standards:**

No mention

**Fleece treatments:**

The chemical control of external parasites is permitted where justified on the grounds of animal welfare. This must be addressed in the Flock Health Plan. Chemical treatments must be licensed for the purpose. (Annex I B5.4c)

### Soil Association Certification Ltd (SA Cert)

**Production standards:**

Allows fleece to be sold as organic provided that:

- the sheep and goats have been kept to full organic standards for at least 12 months before shearing;
- a period of three months (or three times the legal withdrawal period, whichever is greatest) has elapsed between the last treatment of the animals with an external veterinary treatment and shearing, and
- organic wool is on the trading schedule. (Standard 12.1.5)

**Fleece treatments:**

The whole herd/flock or group may be treated for external parasites with permission. (Standard 10.10.30)

Forbids the use of organo-phosphorus or organo-chlorine (gamma HCH) compounds, includes dips, sprays and creams for warble fly, external parasites, sheep scab and fly control, unless required by law. (Standard 10.10.31)

Requires a period of three months (or three times the legal withdrawal period, whichever is greatest) to elapse between the last treatment of the animals with an external veterinary treatment and shearing.

Cautions against the use of external treatments, in particular synthetic pyrethroid treatments, which may result in pesticide residues that exceed the 0.5mg/kg prescription set out in its textile standards, if used up to 12 months before shearing. (Standard 12.1.5)
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Organic wool: beyond the farm
The IFOAM ‘ethos’, built on principles that provide a broad ethical basis to processing beyond production, has found a particular place in the world of textiles. Widely acknowledged to be one of the most polluting, waste-generating and dangerous industries, it is also one of the most globally distributed.

The wool supply chain connects businesses across the world, long since replacing the traditional national infrastructures with a global set-up of extraordinary economies of scale and resilience. Cheap labour, poorly regulated employment practice and lax environmental controls have had a particular influence on the way in which different processing activities have colonised different regions of the world. The result is a supply chain in which Merino wool knitwear can travel 45,809 km from fibre to delivery in Wales, generating 2.60 kg of CO2 on its way xvi.

Nor are the textile miles, travelled from farm through processing stages to final end consumer, the only environmental cause for concern. There is the depth of the environmental impact along its way. The dry wool processes - carding, spinning, weaving and (industrial) knitting – are high on energy consumption but the ‘wet processes’ are the worst culprits for their intensive use of and highly polluting impact upon natural resources.

Scouring, bleaching, dyeing and finishing, essential stages in wool processing, consume gallons of water per kilo wool treated and deploy thousands of chemicals. The detergents used in wool scouring include alkylphenol ethoxylates, chemicals with a capacity to interfere with natural endocrine systems and highly toxic for aquatic life. Treatments to protect against moth and beetle attack use pyrethroids and chlorinated sulphonamide derivatives, many of which are acutely toxic and some of which have been directly associated with cancer, birth defects and reproductive effects in wildlife and humans.

Tests on clothing carried out by Greenpeace in the course of its assessment of the garment industry, revealed traces of chemical residues including pesticides, fire retardants, formaldehyde and toxic dyestuffs with the potential for causing allergies, skin rashes or respiratory problems. Of the 44 materials it listed, wool came out the fifth worst in terms of its overall chemical impact being slightly less toxic than leather xvi. Unlike cotton, little has been done to raise consumers’ awareness of the environmental trail left by wool processing.

“The [Merino knitwear] supply chain is:
Fibre from Southern Alps, NZ.
Goes to China to be made into yarn.
Back to NZ to be made into fabric.
On to Fiji to be cut & sewn.
To the UK via Auckland and LA.
Then London to Cardigan”

Source: Tell the truth, even if it hurts your business - Howies blog (April 2009)
Certification: the Global Organic Textile Standard (GOTS)

The textiles sector has responded with a number of initiatives aimed to drive up standards and address its reputation. The organic sector’s contribution is most clearly represented in the development of the Global Organic Textile Standard (GOTS) in 2006. It is widely regarded as the leading processing standard for textiles made from organic fibres, including wool, in the world.

The Standard has three core requirements:
- the use of certified organic fibres with demonstrable traceability;
- environmentally friendly processing and manufacturing systems; and
- compliance with minimum social criteria.

Key provisions ban the use of heavy metals and highly hazardous chemicals as well as child labour and genetic engineering. Any chemicals used in GOTS processing must meet strict requirements on toxicity and biodegradability, and textile manufacturers must provide for waste water disposal. End products must be free of allergenic, carcinogenic or toxic chemical residues with clear limits placed on any other unavoidable residues in finished goods. Stringent requirements also apply to accessories, ancillary components and labels.

The Standard aims for demonstrable integrity. The entirety of the supply chain, from farm through processing and manufacturing to final product, must be certified and subject to annual inspection. The systems required for compliance are extensive. In relation to wool:
- it must be certified organic at the point of production;
- any pesticide residue on raw wool must be limited to less than 0.5 mg/kg; and
- any pesticide residues on raw wool being used as an additional material or accessory must be less than 1.0 mg/kg.

The GOTS supply chain

The number of GOTS-certified textile facilities rose by over 10 per cent last year. There are now almost 3,000 certified entities in 57 countries around the world producing organic apparel and textiles to this internationally recognised standard. They include: more than 220 spinning, knitting, and weaving units, 450 dyeing facilities and approximately 160 printing and manufacturing facilities. Analogous to organic certification, there are 14 ‘control bodies’ approved to certify to GOTS. SA Cert is the only UK-based control body.

There is, within the UK today, a complete organic supply chain that is capable of processing organic wool, from raw fleece into industrial felt, spun yarns and woven fabrics, and on into
clothing, home textiles, mattresses, bedding and blankets, knitting yarns and wool craft kits – all to certified organic standards.

The UK organic wool sector is a small feature of the GOTS network, however. Only 61 (two per cent) of GOTS certified bodies are based in the UK. Only a third of those deal with wool. A closer look at the UK’s GOTS licensees reveals:

- a predominance of very small retail and manufacturing enterprises, often farm-based enterprises committed to exploiting the fleece they produce;
- a limited choice of processing plants catering to market extremes of very low volume (minimum quantities of 25kg raw fleece) and high volume (minimum quantities of 2 tonnes).

In Wales, there are five GOTS certified businesses which between them produce bedding, knitwear, home textiles and yarns. There is also a weaver. It is not possible to process organic wool from raw fleece to either certified yarn or finished fabric within Wales: there are no certified scouring facilities, no certified spinning plant and no fabric finishers.

The small number of processing plants makes the organic wool sector highly vulnerable to organisational change. It is also possible for individual businesses that have a near monopoly on their part in the chain to, in effect, determine the pricing levels for the entire sector. Organic producers may get no more for their fleece than their conventional peers but organic processing costs can be up to 20 per cent higher than conventional wool – and, at the small scale end, up to four times the cost of large scale processing.
The GOTS fee structure may be a particular deterrent to the expansion of the certified organic textiles sector beyond farms. Whereas Soil Association farms already paying an existing organic license fee are charged an additional £50 to add a GOTS license, textiles businesses pay an annual fee of £600 for theirs. This may be a significant central cost for a small textiles business which, additional to the systems and procedures required by the license, may be difficult to justify in financial terms.

The organic wool chain is undoubtedly larger than the GOTS database suggests. There are many more manufacturers and businesses, beyond licensees, with a commitment to using organic processed wool. However, all are reliant on a domestic organic wool processing chain that offers little choice and is subject to little internal market competition, and which scale paralyses business growth:

- for small and start-up organic wool businesses, the costs of processing small quantities of organic wool can be prohibitively expensive – especially woven wool fabric;
- the costs of processing small quantities of organic fleece may put the resulting yarns, fabrics and textiles beyond economic viability in the market place;
- the market for certified organic yarns, and fabrics in particular, is insufficiently developed to encourage the level of financial investment needed to launch organic production on anything other than a small ‘niche’ scale;
- within the processing chain, there is no stepping point that allows businesses to easily escape the small scale costs of processing and scale up, gradually, to the volume and more favourable pricing of the large scale industrial units.

It is possible to produce organic wool and organic wool fabric within the UK. However, it is not on a sufficiently robust scale to supply designers, fashion houses and retailers with the volume and reliability they require or, crucially, at a sufficiently competitive price.
Shear waste: the market potential of organic wool from Wales

THE WIDER MARKET

A new era for wool

In 2009, wool prices began to buck their disappointing trend of decades. Two years later, they reached a twenty-five year high. 2012 proved to be a harder market with slower sales and a steadying price. Nonetheless, the Board has hailed a new era for British wool forecasting a continued strengthening in the market as a result of:

- reducing supply of raw fleece across the world;
- rising demand for natural and sustainable materials;
- rising price of synthetic fibres;
- the impact of the Campaign for Wool and Love Wool UK initiatives, renewing interest on the part of designers, manufacturers and consumers.

“2011/12 was probably the best sheep year that any of us can remember in terms of financial returns. The final bonus will be the wool cheque producers receive which will show a 21% increase, with the average payment across all breeds at £1.23/kg. To put this in more transparent terms, an average quality mule fleece weighing 3 kg will return £4.30 to the producer, good quality fleeces will be over £5.00.”

Source: British Wool Marketing Board Annual Report and Accounts 2011

In Wales, the resurgent interest in wool is reflected in the growing number of wool events and projects:

- Wonderwool Wales, now in its seventh year, is an annual trade event held at the Royal Welsh Showground in Llanelwedd. Visitor numbers have risen by a third in the past two years to almost 5,200 this year, and there is a waiting list for exhibitor space.
- A month-long Wool and Willow festival in Llanidloes is now in its 8th year; Llandovery Sheep Festival has doubled both visitor numbers and exhibitor space since its start four years ago; other wool events continue to join the calendar – last year, the West Wales Wool Festival (Narberth) and this year, Gower Wool Week (Swansea).
- The Textiles Technology Project (TTP), run by Coleg Sir Gâr, has published its report on the state of the wool industry, based on research and seminars with farmers, businesses and consumers; the Cambrian Mountains Initiative (CMI) held a number of well-attended events preparatory to its establishment of a CMI wool brand.

The Campaign for Wool

In 2010, HRH The Prince of Wales launched the Campaign for Wool to promote wool to industry and consumers across the world. Creating large scale opportunities for optimal media coverage and retail opportunities, its ‘Wool Modern’ exhibition of modern, innovative
and avant garde uses of wool is now touring the world; its latest installation, Wool House, showcases wool for interiors, fashion and artisan and craft-making, to “educate and inspire”.

The Campaign has deliberately sought to engage the widest participation from the business world - from hobby groups to small designer-makers to mainstream retailers and multi-national manufacturers. It has also sought to span the breadth of usage possibilities: from fashion and apparel to interiors and industrial applications. Within a year of its launch, over 200 major UK manufacturers and retailers had pledged support.

The Campaign is avowedly global in reach with financial support from the largest international players in the wool industry, including wool sector giants, Australian Wool Innovation and the Council of New Zealand Wool Interests Inc. 2011 saw its successful launch in Australia and 2012, in the USA and China. Last year, events in the UK celebrated the first wool imported from Australia and New Zealand, with bales carried on the canal from Liverpool to Saltaire, Bradford, collecting British Wool on the way and producing a commonwealth cloth.

There are concerns within the British wool industry that the global ambitions and uncontroversial minimalism of the Campaign’s message make it incapable of accommodating any detail: like the value of local, home grown wool or the potential for an organic market, for example.

**Beyond wool: new market forces**

In the 21st century market place, there are other imperatives at play: a coincidence of environmental and ethical demands from consumers, regulatory pressures from governments, all underpinned by new forms of accountability and transparency made possible by social media.

Consumer interest in the background to the goods they buy is rising. Eco sentiment has clarified and, beyond the obliterative ‘greenwash’ of mainstream consumer marketing, there is a critical ‘niche’ of consumers who require more than marketing to substantiate an item’s worth.
The eco-ethical consumer

The ‘eco/ethical consumer’ has, despite the economic climate, proven to have deep pockets, a lengthening shopping list, an enquiring mind and like-minded friends. Determinedly political decisions are being made by individual shoppers about how and where to spend money. The Co-operative Group’s latest annual report on ethical consumption concludes:

“Markets for ethical goods and services have remained resilient throughout the economic downturn as a progressive core of retailers and producers continue to factor sustainability into their products and services (eg Fairtrade ingredients) and to sell sustainable produce.”

Ethical Consumer magazine’s Buyer’s Guide on Clothes identifies the issues in more detail, advising its readers on the implications for key concerns of the clothes for sale on the high street: animal testing and animal rights, climate change, pollution and toxics, habitats and resources, factory farming, supply chain management, irresponsible marketing, product sustainability and water shortages. These concerns have their own currency, driving the saleability (and marketability) of £47.2 billion spending on ethical goods in the UK last year.

Welfare-friendly textiles

Cruelty-free cosmetics and household goods, and high animal welfare standards in food are well-established values on mainstream shelves. The principles extend to textiles where even silk and cochineal production have been criticised for their inherent cruelty - to ‘silk worms’ (moth larvae) and ‘beetles’ (scaly mites). Welfare concerns for sentient (and photogenic) mammals, like sheep, have the potential to command significant sway.

Campaigners such as People for the Ethical Treatment of Animals (PETA) and Compassion in World Farming (CIWF) have all sought to highlight animal welfare abuses in sheep farming and undermine the ‘natural’ marketing messages of wool. Primarily targeting the practice of ‘mulesing’, petitions to the US and Australian governments have gathered the support of industry giants such as Next, Gap, Adidas and H&M. In 2010, the RSPCA awarded Marks and Spencer a Good Business Award for its commitment to sourcing wool from non-mulesed flocks.

For the Soil Association, this positive association between animal welfare and the organic standards has been a key organic wool campaign message:

“Animal welfare is at the heart of organic systems. Organic sheep are reared, fed, sheltered and transported with consideration for their wellbeing. Cruel practices are prohibited and animal stress is minimised. Organic farmers take a preventative approach to disease, so animals are not routinely treated with antibiotics, wormers or pesticides. Organic animals are reared on organic feed and grazed on organic land, and are free to pursue their natural behaviour with plenty of space outside and a free range life.”
Shear waste: the market potential of organic wool from Wales

Slow, sustainable fashion
There is evidence of a slowdown in the pace of fast fashion. It is reflected in the strong demand for clothing and textiles that are sourced from natural materials, are environmentally friendly and free from harmful chemicals, and engage fair working practices for workers and farmers.

- the number of multi-brand retailers stocking ethical fashion products has expanded dramatically in the last 3-5 years
- 82 per cent of adults to be “trying to make their clothes last” and “reassessing value for money and putting more emphasis on sustainability, integrity and durability”

“It’s no news that our voracious appetite for ever-changing fashions is having a devastating impact on both the environment and people across the globe. In the UK, the average female buys half her bodyweight in clothes each year and owns four times as many garments today as she did in 1980.”

Source: Ethical Consumer Buyers’ Guide Clothes (2011)

It is also opening up the natural fibre market, no doubt helped by rising oil prices and the cost of synthetic fibre derivatives. The familiar, traditional list of materials - cotton, linen, silk, hemp and wool – have been joined by the likes of soya, bamboo and banana fibre. That they sound natural in origin catches the eye; their ‘eco’ status does not always bear scrutiny, or endurance, however. Research from the US in relation to bamboo is telling: “Even when bamboo is the “plant source”, no traits of the original plant are left in the finished product.”

Industry body, the Ethical Fashion Forum, provides supply chain information through its online platform, SOURCE. It advises on the sustainability of materials and fabrics and has concluded that many ‘new naturals’ are so reliant on technological processing that their natural credentials are in name only. In relation to wool, it advises designers to:

- check their wool suppliers to make sure sheep farmers aren’t contributing to desertification or using mulesing;
- think about their water use – and get wool from countries where there is plentiful water and sheep farming makes good use of the land;
- work with their suppliers and manufacturers to reduce the impact of chemicals and dyes.

Provenance and traceability
The food sector has made much commercial capital out of the values attached to ‘local’ and ‘direct’. New country of origin legislation, ‘buy local’ campaigns and the importance of EU protected geographical indication (PGI) status are all testimony. The diffuse trans-global nature of the textiles sector and its apparently unassailable capacity for cheap production has made the emergence of a ‘buy local’ and ‘buy traceable’ agenda in textiles a somewhat harder, slower won campaign. Instead, the ethical textiles sector has focussed on the
importance of fair trade and fair working practices. Today, there is evidence to suggest things are shifting and that country of origin and traceability both have currency in textiles:

- the Wool Board’s new ‘platinum’ logo denotes the inclusion of 100 per cent British wool in a product – as distinct from its standard British Wool logo, with iconic Shepherd’s Crook and Union Jack, that denotes a minimum of 50 per cent only;
- Australian active wear company, i-merino, prides itself on producing fabric from certified sustainable farms, that pays a fair price to farmers, involves minimal environmental impact and meets EU eco-label standards. It also offers online ‘field to fabric’ traceability to consumers: “As a customer, you can log into the i-merino online tracking system and see exactly where the fabric has come from, where it is at in the production process, and the levels of quality and environmental performance your fabric has achieved.”

“The thanks to the horsemeat scandal, the general public is becoming acquainted with the unforeseen complications brought about by globalised processing and trading practices. The longer and more dispersed the supply chain, the more difficult it is to ensure transparency and accountability.”

Source: Baroness Lola Young House of Lords debate on Ethical Fashion (2013)

The British wool industry has started to recover some processing capacity, dovetailing with the growing demand from small farm and design-led businesses committed to buying local. That many of these small spinning mills have long waiting lists and turn around may exceed a year, suggests that demand is high.

A SOURCE Intelligence report asserts that ‘Made in the UK’ is closely associated with good quality fabrics and has never been truer in the case of British woollen fabrics – and that this positive association extends to local farms and good farming practices:

“People want to know more about the supply-chain and if humanely treated British sheep are at the end of it, they are much more likely to buy.”

Regulation and compliance
‘Bottom-up’ consumer pressures are matched by their equivalent ‘top down’. New regulations and industry standards are also promoting change in manufacturing and retail. European Directives on land contamination, water, waste disposal, chemicals and climate change all have direct implications for the way in which the textiles sector operates.
Businesses are increasingly seeking out materials and processes with demonstrable compliance. Independent certification is a key means of verifying efficacy to regulators and of substantiating marketing claims to increasingly challenging consumers:

- the European Commission’s ‘Ecolabel’ – a voluntary label promoting environmental excellence and awarded to products and services with a reduced environmental impact throughout their life – has seen demand for its label almost double in three years;\(^\text{xxx}\)

- industry standard, Oeko-Tex® Standard 100, in place since the 1990’s certifying environmentally friendly and sustainably produced textiles, is launching a new Sustainable Textile Production certification system to meet the demands for environmental and ethical transparency.

The organic market
UK sales of organic textiles have shown strong growth in recent years and the sector is now valued in excess of £100 million. Organic cotton accounts for over 90% of the market; wool, linen and other fibres make up the remainder. In the UK organic cotton market, certified products make up around a fifth of sales. Four-fifths of demand comes from major retailers and brands incorporating organic cotton into their manufacturing\(^\text{xxxi}\).

More recently, overall sales of organic produce in the UK have been vexed, falling from a high of £1.9 billion in 2008 to £1.64 billion in 2012. European sales of organic products, in contrast, have increased by more than 25% in the same period. The story for GOTS licensees is similarly positive with their turnover increasing by 10 per cent in the last year\(^\text{xxi}\).

Interestingly, there is plentiful, albeit anecdotal, evidence from organic textiles businesses in Wales that continental Europe may also offer the strongest demand for organic Welsh wool – not limited to yarns and knitwear, but including fabrics, mattresses, duvets, bedding and blankets.

So what for certified organic wool?
Increasingly, purchasing decisions are being informed by questions about: country of origin, sustainability of raw materials, environmental impact through processing, workforce conditions, and the story of its making. Consumers and businesses are flexing their capacity to shape the wider market, the products available and the journey travelled from point of origin to point of sale. Alongside raw ingredients, information and traceability are key commodities in product design. It is not difficult to see how, in theory, certified organic wool fits extremely snugly into the new market trends.
FOR FARMERS: OBSTACLES & OPPORTUNITIES

Organic wool: production in Wales
There are over 400 organic sheep farmers in Wales and an estimated 328,000 organic breeding sheep\textsuperscript{xxxii}. A conservative estimate would suggest an annual yield of some 120 tonnes organic fleece. In terms of hard evidence, the trail is less clear.

Wool Board figures, handling a total of 215 tonnes organic fleece in 2012, suggests that only a fraction of the organic wool farmed in the UK is identified to the Board as organic. Similarly, there is no evidence to suggest that a fleece’s organic status, or indeed its Welsh provenance, is of any consequence to its market value or its end use - nor indeed is there any means of identifying to what end use it has been put.

Organic wool sales: the Wool Board
The British Wool Marketing Board operates a central marketing system for UK fleece wool with the aim of achieving the best possible return for its producers. There is a legal requirement on every sheep owner with 5 or more sheep to register with and sell their wool clip to the Board (subject to the exceptions below)\textsuperscript{xxxiv}. The premise on which the Board is based is to ensure that sheep farmers secure the highest return possible for their wool. The questions: is this working for organic producers? Is this working for the organic sector as a whole?

The Board has no strategy in relation to organic wool. Organic wool is not mentioned anywhere on its website or in any of its publications. Auctions of organic fleece, in comparatively small quantity, variable lots, are amongst the last to be held in the season. Rarely do prices exceed those of conventional. The Board has, however, developed the systems necessary to handling organic fleece: green sacks are supplied to organic sheep farmers (on request) and proof of their organic status required; every one of its depots has GOTS certified procedures in place to ensure the integrity of organic fleece; separate storage is afforded in Bradford.

The systems are self-evidently under-used and under-valued by producers and Board alike. The impasse would seem unlikely to be broached without its wider promotion to producers or, better, a financial incentive.

Options for farmers
Given the strong indications that the wider market has the potential to attach a far higher value to organic wool than the Board is currently securing, organic sheep farmers may wish to consider their own situation with a view to improving the return on their fleece. This may include alternative routes to market which take advantage of the exceptions to their legal obligation to sell to the Board:
Shear waste: the market potential of organic wool from Wales

- selling fleece directly to handspinners to be processed by hand, by that spinnerxxxv
- selling fleece from specific native breeds, or their crosses – currently Balwen, Boreray, Castlemilk Moorit, Hebridean, Leicester Longwool, Lincoln Longwool, Llanwenog, Manx Loaghtan, Norfolk Horn, North Ronaldsay, Portland, Soay, and Teeswaterxxxvi;
- applying to the Board for permission to retain and sell their own fleeces for direct sale from the farm or for further processing (which applications are generally approved).

i. Exploring new markets: knowing your wool

The nature of the farm’s fleece will determine its potential use and, therefore, choice of market. Assessing fleece quality is a technical process. Most farmers will have neither the time nor the inclination to get into the detail. All they really need to know is:

   i. what kind of wool they produce?
   ii. what is it good for?

The Wool Board provides a number of services which will help farmers determine the quality and potential of their clip:

- the annual Grading Advice, returned to producers by the Board, categorises the fleece submitted. The grading reflects the quality of the fleece, not the breed of sheep, and provides an invaluable starting point to understanding the farm clip as a whole;
- a ram fleece assessment is a free means of getting expert information about the wool quality of the farm’s rams. The ram’s fleece should be packed (and labelled) separately within the wool sheet and the depot alerted to the assessment required. The Board will provide a report on the strength, staple, handle and colour of the fleece giving an indication of the quality the ram is adding to the farm’s clip overall;
- an ‘on farm’ fleece assessment is available as a ‘paid for’ service and provides the most detailed information about fleece quality whilst still on the hoof. The Board encourages groups of farmers to get together in order to share the costs.

Additional to the Board, it may also be worth talking to the local Guild of Weavers, Spinners and Dyers. They will bring a different set of values to a fleece and may have useful suggestions: coarse, kempy, coloured wool may yield a poor return from the Wool Board but artisan weavers and rug makers will readily put it to creative use.

ii. Managing your wool ‘on the hoof’

Wool management is commonly a one day event: shearing! In fact, it is a year round concern. Farmers who want a better return on their wool will first need to consider the way in which their fleece is managed during the year and the particular implications for:

- housing - the choice of bedding and the way in which hay/silage is fed can make a difference to the level of fleece contamination;
**Shear waste: the market potential of organic wool from Wales**

- **the timing of external pesticide applications** – which may need to take account of the GOTS requirements for a three month withdrawal before shearing;
- **the use of spray markers on fleece** – which, if used excessively, can result in permanent staining and remain visible on fibres even through processing (raddle crayons/paint will usually wash out);
- **grazing stubble and turnips** - mud particles can break and weaken the wool;
- **conservation grazing** – many sites will contaminate fleece with seeds, thistles, gorse and other vegetation whilst fleecy lambs are more likely to become trapped in brambles, especially in the autumn.

### iii. Shearing

There is no longer a sense of ‘harvest’ about shearing. On most farms, it is done for welfare reasons and the focus has shifted away from the quality of the shorn fleece to the appearance of the shorn sheep. The way in which shearing is managed and done will have an important influence on the marketability and value of the farm’s clip. Farmers have as much influence over the end result as the shearer:

- **timing** – shearing too early, before the lanolin rises, risks uneven staple length and second cuts in the wool; too late and there will be a natural break point within the shorn fleece that will undermine its quality through processing;
- **frequency** – shearing more than once a year may make the most of the best fleece on the farm i.e. from its lambs and yearlings: stores can be autumn sheared to allow sufficient regrowth before winter, winter-shorn shortly after housing or shorn in late spring and still catch the hogget market;
- **second cuts** – passing the shears over the sheep a second time to ‘tidy her up’ will add a layer of short, worthless lengths to the fleece and undermine its value for processing;
- **dry, clean fleece** – good handling facilities, a smooth flow of sheep (with coloured sheep sent through last), a clean working area and the board swept between sheep will help ensure minimal sweat on the fleeces and reduce contamination;
- **basic grading and quality control during rolling and packing** - wool sheets containing fleeces of similar quality will yield a higher average value. If the farm returns more than a single sheet, it is worth separating ‘higher quality’ and ‘lesser quality’ fleeces – or, more elaborately, shearing fleeces, ewe fleeces, ram/coarser fleeces and coloured fleeces. Fleeces embedded with vegetation, dags or simply falling apart have no processing value and should be discarded (torn up and added to the muck heap). Outstanding, including coloured fleeces, can be kept to one side for individual sales.
iv. Improving your wool

Farmers have a direct influence on the quality of their wool clip through breeding and management. Key considerations are:

- **welfare and nutrition**: there is a direct relationship between the nutritional status, health and general well-being of the sheep and its fleece. Normal stresses or disease - including lambing, lactation, internal parasites and lameness - can cause weak points in the wool fibre as it grows. They may not be obvious on the sheep but through processing – carding, felting or spinning – the weak points break and spoil the quality of the processed yarn. A farm’s best fleece is likely to come from autumn-shorn lambs, over-wintered yearlings and young barren ewes.

- **choice of ram**: as the basic characteristics of a fleece are defined by genetics, it follows that the choice of ram exerts a powerful influence on the quality of the farm’s wool. The starting point to improvement can be as simple as choosing a terminal sire from a breed that, naturally, brings a good fleece: Blueface Leicester and Suffolk are obvious choices. Fleece quality also varies between individuals so, even between rams of the same breed, distinctions can be made on the basis of a ram’s wool.

- **selective breeding – for character**: Wool Board prices can be compromised by fleece with red, grey and black fibres, or a lot of kemp. It advises farmers to avoid breeding from animals with these traits. Those wishing to exploit demand from the craft sector for naturally characterful fleece may want to do the reverse, deliberately selecting for these traits.

- **selective breeding – for colour**: naturally coloured quality fleeces are especially valued by small processors and wool businesses, and the inclusion of a black ram in a breeding programme will dramatically increase the number of coloured lambs in a flock: immediately, if he is used on ewes known for throwing black lambs, and; in the second generation, if his ewe lambs are bred to a black ram themselves.

Routes to market

i. Making the most of the Board

The Board argues that its role, representing the combined weight of producer interests, gives it a unique collective strength that no single farmer or trader could achieve on their own. Its analogy with the fall in milk prices following the disbanding of the Milk Board is erroneous, misconstruing as it does the diversity in the wool presented for sale.

There is no doubt that many farmers could be achieving a higher return on their wool than by selling to the Board. For most, however, the Board will, and arguably should, remain the first point of sale.
By the same token, there is also no doubt that farmers, following the good wool practice above, could achieve a higher return on their wool by continuing to sell to the Board. 2012 prices ranged between 10p and 380p per kilogram: poor quality fleece returns less than 40p/kg and the average for good clean fleeces is around £1.10/kg. The key to the price paid is quality and a more judicious approach to what is sent to the Board may result in a higher return overall.

ii. Selling raw fleece direct

The wool craft, including handspinning, market is a strong one and a worthwhile target. A fleece’s organic status, particularly with the pesticide withdrawal standards followed, is especially welcome. Organic producers may describe their raw fleece as organic, provided it meets any requirements set by their control body, and that no processing (including washing) has been done.

Handspinners are knowledgeable and well-networked, and it is well worth contacting the local guild to canvas views about the farm’s fleeces and their value. If you want your new customers to return, they need to be getting a good quality product. They will spread the word if they are – equally so if not!

Farmers need to be confident of the quality and suitability of their fleece to this market and put some time into preparing the fleece. They will, in the course of doing so, learn a considerable amount about fleece and wool. This experiential knowledge is probably the best starting point to developing any further into ‘added value’ processed textiles (below).

- **select carefully**: in general, hand spinners want fleece of a particular quality or with particular characteristics: rare breed and coloured fleeces are particularly valuable; fine, downland-type fleece that is soft and springy with a staple length of around 7.5 - 12.5cm is especially popular – and Welsh cross-breds, from Suffolk and Bluefaced Leicester sires, compare extremely well; the fleece should be consistent, uniform in length and sound (test by holding the tip of a sample lock in one hand and the base in the other, pulling tight and it not breaking!);
- **shake, skirt and pick over**: lose dirt, dust, second cuts, dags and vegetation should all be shaken free; any clumps of felted or matted fleece should be removed (by pulling not cutting) along with any areas contaminated by spray paint, urine or muck; pick off straw, embedded thorns and any other foreign matter;
- **store**: individual fleeces should be kept in clean paper, cotton or hessian (potato) bags, stored dry and away from rodents or birds; 12 hours in a freezer once a year will kill any wool moth larvae; there is no need to roll as handspinners may prefer to be able to unpack and inspect the fleece before purchase;
- **label**: handspinners will invest a lot of time into a fleece and like to know about the farm and the sheep; your label should include: your name and farm address; breed/type of sheep (including any cross) and age; date of shearing and weight of fleece; date any
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external treatments (including dip) were applied; organic certification details (and logo, subject to the control body’s approval); any other details that might add to provenance – agri-environment schemes or conservation grazing, for example;

- **market:** there are a range of possible outlets for good quality whole fleeces - from sales to individuals on eBay or, if appropriate, via the local breed society, Rare Breeds Survival Trust Wool Exchangexxxvi or British Coloured Sheep Breeders Associationxxxvii; to organic wool businesses who process and/or sell organic yarns and textiles; or, more locally, farm gate signage, cards in local craft and yarn shops and good contact with the local Guild;

- **price:** handspinning is a hobby so the economics differ from the professional world, although purses are not bottomless; Wool Board prices provide the baseline per kg price (never accept less than that) whilst eBay provides a wider market guide; in April 2013, the ‘buy it now’ price for a whole Badger Face Welsh Mountain (Torwen, black) fleece weighing 1.6kg was £10 and for a half-fleece Lleyn cross (white) of similar weight was £5.

For spinners and wool crafters, a whole fleece can be a lot of wool. Selling in smaller quantities may prove easier and yield a higher price per kg for only a little more work:

- **small quantity fleeces** - smaller fleeces, especially from primitive breeds may weigh less than 1kg, and can be a more manageable size for spinners;

- **bulky fleeces** - are worth dividing (along the spine) and selling as half fleece;

- **graded fleece** – whole fleeces may be broken down into their different qualities, based on staple length, quality or colour for example, and then bagged in smaller graded quantities;

- **washed fleece** – whilst most spinners will expect to buy their fleece ‘raw’ and may spin ‘in the grease’, others may want to wash their fleece first; there is the potential for adding a premium to the price by this simple processing which may be easier on a farm than in the home; however, washing is a process and, without a GOTS license, may compromise the certified status of your fleece.

**iii. Farm-commissioned textiles - spinning and weaving**

Little is left of the traditional woollen industry in Wales. The mainstream commercial scouring plants and spinning mills are all in England and working with volumes of fleece that would far exceed an individual farm’s requirements. There is, however, a growing number of small scale spinning mills dotted around the UK, including a number in Wales. These can spin quantities as small as 25kg which, for farm businesses exploring the possibility of adding value to their wool, may be an attractive option, albeit not one to be undertaken lightly.

For organic producers wishing to retain the certified status of their wool, the choice of processors is more limited: the Natural Fibre Company in Cornwall is the only plant able to
Shear waste: the market potential of organic wool from Wales

both scour and spin small, farm-scale batches to certified organic standards; Curlew Weavers, in Ceredigion, is the only certified weaver; Schofields, in Scotland, is the only certified finisher of woven textiles. There is, of course, nothing to stop organic producers from having their fleece spun and woven elsewhere but they could no longer lay claim to certified organic status on their wool labels and no longer carry a control body logo.

The process and costs of commissioning even the simplest balls of wool from raw fleece are such that farmers will need to be absolutely clear that:
- a) they have a fleece worth spinning;
- b) they know what kind of wool they want returned;
- c) they are confident of the market demand;
- iv) they have a clear route to market.

Sales by the independent yarn sector are attractively strong – but, increasingly, wool crafters are spoilt for choice. Farmers will need to have something more distinct than (yet another) natural cream yarn from (yet another) local farm to find customers willing to pay a price that will provide a return over and above the costs of processing.

Taking the yarn a step further to produce woven blankets and throws to certified organic standards will almost double the processing costs, per kg. There are even greater challenges in the logistics of planning the processing, considering the design possibilities, which may require an additional natural or dyed colour, and identifying a market. It takes a comparatively large quantity of fleece (50kg), and money (up to £1,500 plus VAT), to produce a single length of cloth (50 metres – equivalent to 24 throws)xxxix. Such a one-off run of identical throws, commanding a price determined by the processors, not the consumers, may prove difficult to sell on their own.

iv. Working with others

Nowhere else in the world has a single, state run wool trading mechanism as in the UK. Elsewhere, co-operatively run wool warehouses, operating at more local level, are more common. Their looser, less regulated structure affords greater flexibility. There is evidence of a growing number of initiatives responding to market demand for local provenance and sustainability in textiles and expanding their activities beyond simple wool trading to include commission processing.

- In California, the pioneering Fibreshed project has spawned the emergence of a new regional textile supply chain and local textile culture that brings local producers together with artisans, processors and makers. The ambition is that all the fibres and dyes are grown locally and all the labour sourced locally.
“Future Fibershed communities will rely upon renewable energy powered mills that will exist in close proximity to where the fibres are grown. Through strategic grazing, integrated systems management, and conservation tillage our farming practices will create climate beneficial clothing that will become the new standard in a world looking to rapidly mitigate the effects of climate change.”

Even within the UK where the structure of the wool industry makes it harder to retain local wool at local level, there are examples of initiatives seeking to do just that:

- in Scotland, Shetland Organics has established itself as a community interest company that purchases raw fleeces from its organic wool producer members and commissions yarn spinning and then Shetland based designers and makers to produce a range of bespoke woollen garments.
- in Wales, the Cambrian Mountains Initiative, established to promote products sourced from the region, has a newly formed Wool Group which plans to brand high quality wool textiles that use local wool.

**Organic Wool Wales**

The true value of organic fleece can only be realized through the collective endeavours of the wool textiles supply chain: farmers, processors, designers, makers, retailers and consumers. Running alongside the research to this report has been a project designed to test that capacity and potential.

The project was initiated by frustrations at the apparent limited availability of organic Welsh wool. Generally supplied in such small batch, small scale quantities, it is unusable even by the small scale, but ‘high end’, designer-maker community where commitment to local, organic textiles is most evident.

It set out to demonstrate the practicalities of producing a length of fabric from Welsh wool to certified organic standards within the UK, and assess the level of interest in its availability. A graded 85kg white and black fleece from forty organic cross-bred sheep was sent from Carmarthenshire for scouring and spinning to weaving yarn at the nearest certified organic processing centre in Cornwall, returned to Ceredigion for weaving and then sent to Scotland for finishing as fabric.

The wool travelled 1,000 miles in its processing and cost, per finished running metre of returned fabric, £42.36.
Shear waste: the market potential of organic wool from Wales

<table>
<thead>
<tr>
<th>Costs of producing 100m finished organic Welsh wool fabric within the UK (2011/12 prices including VAT)</th>
<th>£</th>
<th>proportion of total costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>85kg white and coloured longwool cross-bred fleece, graded</td>
<td>408</td>
<td>9.6 %</td>
</tr>
<tr>
<td>scouring and spinning to return 60kg weaving yarn in 2 colours</td>
<td>1,862</td>
<td>44.0 %</td>
</tr>
<tr>
<td>weaving and finishing to produce 100m x 1.5m width fabric</td>
<td>1,656</td>
<td>39.1 %</td>
</tr>
<tr>
<td>transport (transport to finishers included in weaving costs)</td>
<td>310</td>
<td>7.3 %</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>4,236</strong></td>
<td></td>
</tr>
</tbody>
</table>

Over twenty-five designer-makers from across the UK and overseas applied to join the project and, for no remuneration, design and make a piece of work using the fabric. All had a demonstrable interest in using sustainable fabrics and techniques and all were especially motivated about being able to use organic Welsh wool.

Eighteen designs were selected to form part of an Organic Welsh Wool Fabric Collection, launched at Wonderwool Wales 2013, and showcasing the designers’ range of original pieces including accessories, footwear, clothing and furniture, all from the organic wool fabric.

The success of the project can be measured in a number of ways:

- that it is possible to produce a length of high quality, organic wool fabric within the UK;
- that so many textiles designers were so immediately ready and willing to subscribe to the idea and voluntarily commit their professional time and skills to promoting and being associated with organic Welsh wool;
- that the Wonderwool audience was particularly engaged by the organic Welsh credentials of the fabric and impressed at its multiple uses.

The project’s experience confirmed an unarguable and strong level of interest, and a sense of pride, amongst independent designer-makers and their customers in being able to use organic Welsh wool. It also confirmed the key challenges: cost and continuity.

Small scale processing costs produce a high quality fabric that is only affordable to ‘high end’ designers and makers whose customers are prepared to pay considerably more for British-made, organic materials. Those businesses are, arguably, the ones most able and willing to
Shear waste: the market potential of organic wool from Wales

raise the demand for organic Welsh wool – but they also need some continuity in supply and an element of choice in fabrics. This requires the organic textiles suppliers to sustain the level of investment and output beyond the ‘one-off’.

**Stepping up demand**

Increasing volumes to over 2 tonnes raw fleece would allow processing to enter the mainstream supply chain, using the GOTS licensed industrial scale scouring and processing plants, and reduce costs substantially. It would also open the possibilities for deploying organic fleece to more industrial uses and in far greater quantities - as insulating material, bedding or upholstery, for example – as well as producing rolls of fabric and volume availability of knitting yarns.

This is the scale at which the real potential to impact on the demand for and price of organic fleece can be unlocked. It requires a sizeable financial investment and confidence that few individual organic businesses appear to have of their own.

It also requires farms to produce a consistent, high volume supply of certified organic fleece, sold both through the Wool Board and directly to textiles businesses for whom local provenance and traceability are a priority. With the support of organic farmers and a higher regard given to their wool, there is little to stop that from happening immediately.
CONCLUSION AND RECOMMENDATIONS

Organic wool is a fractional part of the mass, global wool industry in which, currently, it makes little mark. There is certification system that extends from farm to finished item but organic standards vary in relation to wool and the volume of certified fleece sold is far less than that produced. The processing chain offers little choice and exists in extremes: small or high volume capacity. Uptake amongst British businesses of the GOTS licence is comparatively low with the cost deterring small and start-up businesses in particular.

Organic Welsh wool has a powerful resonance with the new economic values of natural, sustainable, local and organic. There is no difficulty engaging designer and consumer support in the concept. Processing costs, on a small scale, make organic wool a ‘high end’ material with a ready but limited market. The organic wool sector, in general, lacks the resources and confidence to scale up production sufficient to maintain supply or to access high volume/lower cost processing.

At farm level, there is scope for improving the quality and value of raw fleece and securing a higher return via sales to the craft, artisan and ‘niche’ textiles market. High volume processing is beyond the reach of individual farms and requires engagement across the supply chain: bolstering capacity through collaboration has the potential to impact positively on the baseline price paid to producers. A strong return of certified organic fleece to the Board is most conducive to it taking the organic wool sector seriously and being more proactive in pursuit of new markets.

Recommendations:

- that the control bodies, and umbrella organisations, address the inconsistencies between their various wool/fleece production standards and particularly address the need for convergence with organic processing requirements;

- that the Wool Board support organic producers in their endeavours to raise the quality of raw organic fleece and permit their pursuit of alternatives sales mechanisms and buyers’ markets for organic wool;

- that the Soil Association and GOTS consider a more accessible means of licensing small and start-up wool textiles processing enterprises;

- that organic sector support is given to the development of co-operative organic Welsh wool ventures to facilitate improvements in the production of certified organic raw fleece, supply chain collaboration, higher volume processing, business capacity and the exploration of new markets and customers for organic Welsh wool.
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