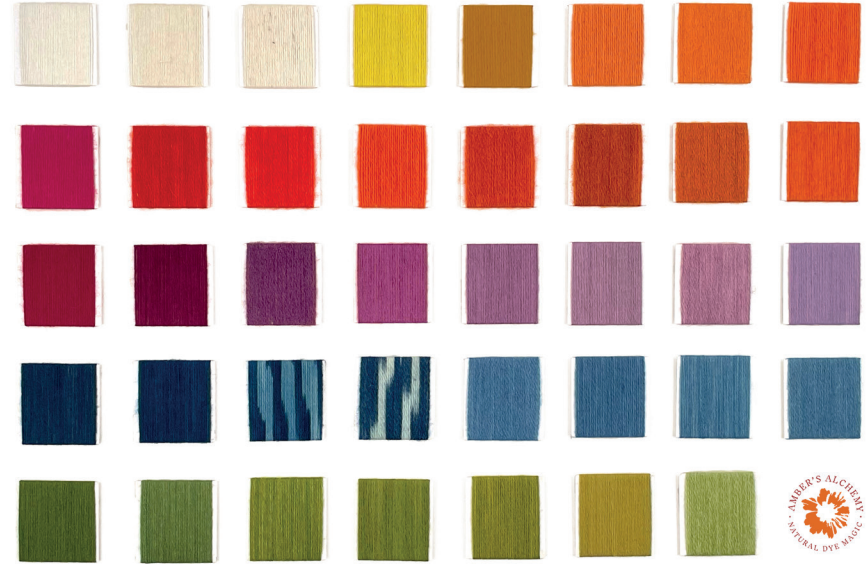


AMBER FRY

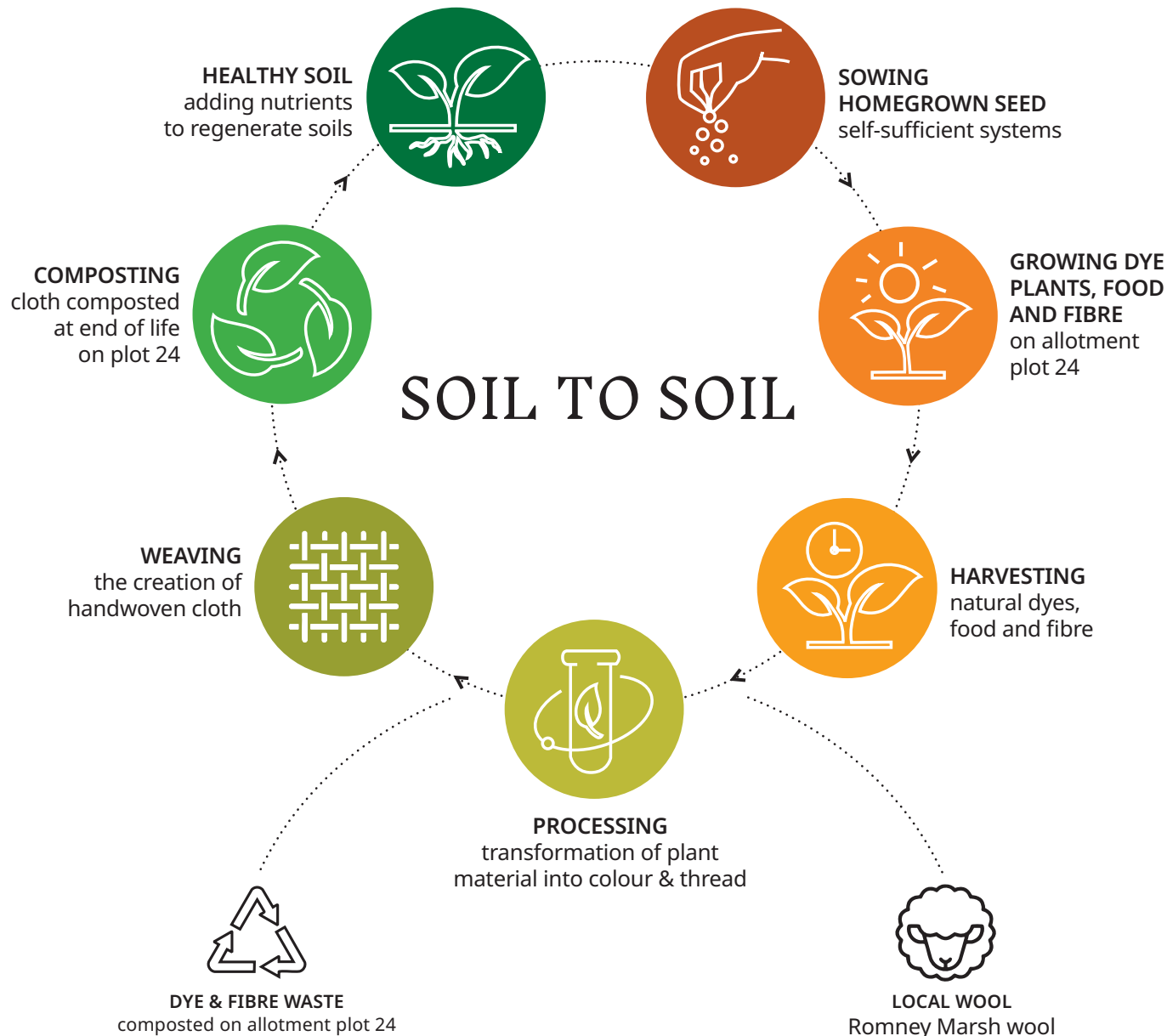
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MY ALLOTMENT AS AN EXAMPLE OF REGENERATIVE FOOD, FIBRE AND NATURAL DYE SYSTEMS FOR TEXTILES



REGENERATIVE FOOD, FIBRE and NATURAL DYE TEXTILE SYSTEMS



HOMEGROWN LINEN

FROM SEED TO CLOTH

Sowing
Growing
Harvesting
Retting
Stooking
Rippling

Breaking
Scutching
Hackling
Spinning
Weaving
Finishing



100% NATURAL DYE COLOUR

HOMEGROWN HUES



Homegrown hues on local
wool, peace silk, organic
cotton and organic linen

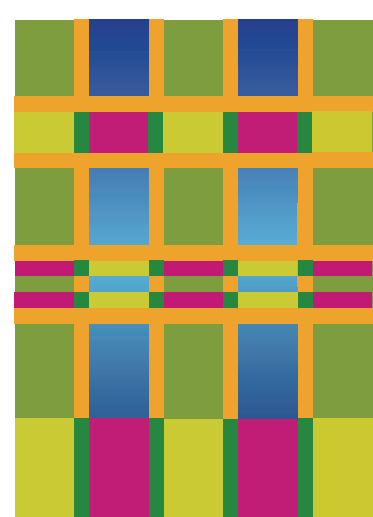
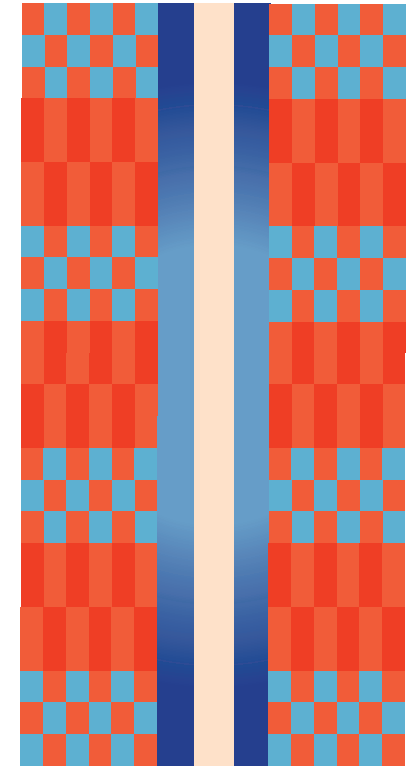
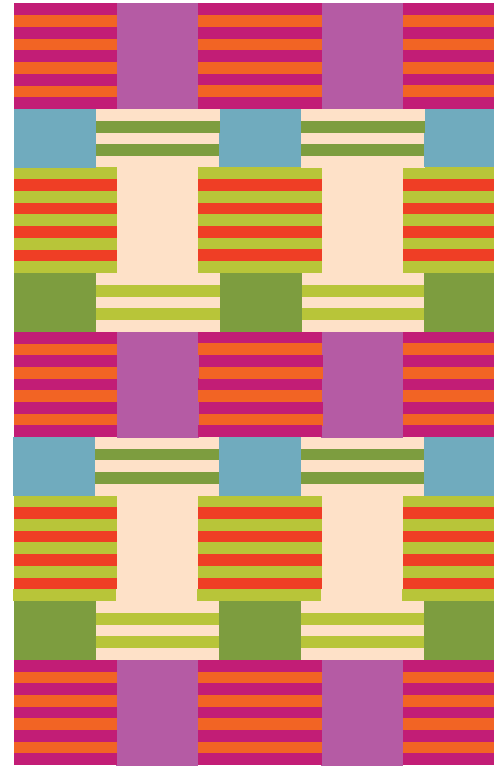


Calendula
Coreopsis annual variety
Coreopsis perennial variety
Cosmos
Dyers chamomile
Goldenrod
Greenweed (dyers broom)
Black hollyhock
Hopi sunflower
Marigolds
Safflower
Black night scabious
Black eyed susans
Dyers tansy
Weld
St Johns wort
Murasaki
Rhubarb
Madder
Ladies bedstraw
Hedge bedstraw
Woad
Japanese indigo
Oak galls



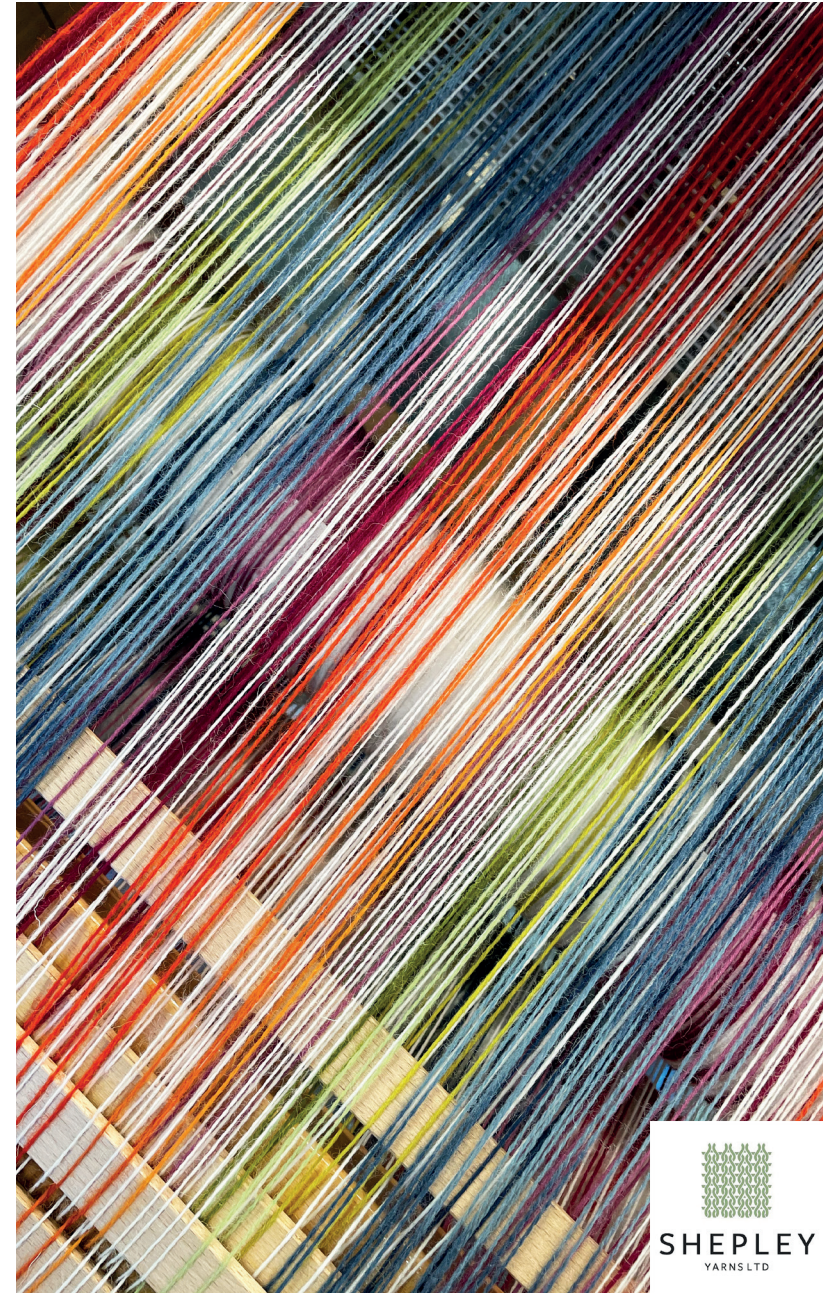
VISUAL DESIGN DIRECTION

VIVID ABSTRACTIONS OF ALLOTMENT LANDSCAPES



ANCIENT NATURAL DYE TECHNIQUES

TRANSLATED INTO CONTEMPORARY WARP DESIGNS ON BRITISH WOOL





100% WOOL
100% NATURALLY DYED
100% HANDWOVEN

100% WOOL
100% NATURALLY DYED
100% HANDWOVEN
with homegrown linen ribbon detail





MATERIALS: 100% WOOL, 100% NATURALLY DYED

HOMEGROWN LINEN DETAILS

ROMNEY MARSH MERINO WOOL SOURCING TRACEABLE KENT WOOL

4ply British merino wool yarn

The yarn I have sourced is Romney Marsh British Merino, produced in Kent.

Romney Marsh Wools is owned and run by Kristina & Paul Boulden. Their Kent flock is around 1200 Romney ewes and 150 British Merino ewes. The business aims to raise awareness of the benefits of wool and the wide range of products that can be created from fleece, like throws, cushions, hats, scarves, knitting kits, yarn, raw wool and lanolin rich products like soaps.

Their wool is processed by Curlew Weavers in Wales before arriving back on the Kent family farm as yarns and other bespoke items like woven blankets - **Locally sourced, locally produced (with the local community involved in flock care and product processing) and locally distributed – low embodied energy due to limited transport miles**

Romney Marsh wool has been graded as being high quality British wool produced using sustainable practices dating back hundreds of years, like the natural sheep grazing which ensures conservation of historic Romney Marsh pasture and landscape.

Even scouring products are certified to ensure safe and planet healthy operation - Haworth Scouring Company - who have achieved: ENCO GLOBAL TESTING SERVICES ENVIRONMENTAL CARE CERTIFICATE FOR WOOL SCOURING NUMBER ENCO 4061.

KENT VALUE CHAINS:

It is important for me to connect with companies like this to produce my own range of 100% traceable woollen fabrics that can be coloured with homegrown dye plants - creating British value chains of fibre and colour, intrinsically linked to a sense of place. With the wool produced on a family run Kent farm and dyed with my own homegrown dye plants like madder and indigo, nurtured on my Kent allotment plot, it felt like the right company to support and work with in my pursuit for localised fibersheds of wool and plant colour.

Sources: Romney Marsh Wools



SHEPLEY YARN, PENNINE COLLECTION SOURCING TRACEABLE BRITISH WOOL

4ply (2/8s) undyed British wool

Shepley Yarn is known for **celebrating the natural qualities of our pure new wool**, selling yarn in natural undyed colours, spun using the original colours of British wool pure breeds as well as collections of dyed hues.

Shepley Yarns is the parent company to Woolyknit and baa ram ewe:

The yarn I have sourced for this sustainably conscious project is Shepley Yarn through Woolyknit as they take the dead stock from the wholesale business of Shepley and sell it as smaller artisan friendly quantities through their company Woolyknit. This business model ensures Shepley yarns is reaching commercial, artisan and hobbyist markets with their yarns and overall allows for diversification of the business by selling the same products at different quantities to different audiences.

The **certified British wool** of the Pennine Collection is created using the responsibly sourced **wool from sheep that roam freely on the fells and downs of the British Isles**. All British wool is graded to ensure it meets the highest standards of quality insurance - British wool is also known for being kind to animals, environmentally sustainable, traceable, socially responsible and non-mulesed Through 200 years of age-old techniques and experience in the wool industry **Shepley is able to produce sustainable, renewable fibres that support local farmers and the health of our planet.**

ADDING VALUE TO BRITISH WOOL:

Within the range of Woolyknit yarns, Suffolk, Jacob and Merino fleeces are used. I appreciate the transparency efforts Shepley takes in order to produce certified high quality fibres. For me it is important to support British farming initiatives that are adding value to the market of high quality regenerative fibres.

Sources: Woolyknit, Shepley Yarns



SUSTAINABILITY STARTS WITH THE MATERIALS WE CHOOSE

How resources are farmed, sourced and extracted from the earth, plants and animals (tier 4 of the supply chain) accounts for 24% of the industry's carbon footprint.

Therefore in order to create more a more sustainable fashion and textile future we need to be working sustainable practices and materials choices in at the design stage.

Source: Textile exchange

WOOL

Wool has been at the core of human textiles for more than 10,000 years as the most common animal fibre used in the fashion and textile industry. Currently, wool only makes up around 1.2% of the global apparel and textiles market. Despite wool being readily available, it is completely underutilised as a resource. Shepherds are forced to burn their wool, or send it to the British Wool Board where fleeces currently have so little value. The ideal future would be that shepherds add value to their product whilst connecting them to reliable buyers within the textiles industry.

Wool attributes:

Natural. Wool is one of the few 100% natural fibres available.

Wool is part of the carbon cycle, storing carbon dioxide until it biodegrades. When returned back to the earth it adds vital nutrients back to the soil.

Biodegradable. Unlike man-made fibres, wool does not release polluting micro particles into our waterways when washed.

Sheep produce a new fleece every year, making wool a completely renewable fibre.

Reduced water usage. Compared to other natural, artificial or synthetic fibres, wool needs significantly less water for its growth, manufacturing and after care.

Widely recycled. Due to its strength and long lasting qualities, wool is widely recycled and re-purposed.

Little impact when cared for. Wool is washed less frequently and at lower temperatures.

Sources: Textile Exchange, DIRT charity (Turning fashion into a climate solution), Woolmark, Stella McCartney on regenerative wool, Nativa Precious Fibers



Wools place within regenerative fibre systems

Nature positive sourcing for wool goes beyond maintaining ethical and responsible farming practices. The focus is on soil use and biodiversity within farming, taking a holistic approach to creating wool fibre, all whilst improving the health of the local landscape. A regenerative approach to wool production is the sustainable integration of livestock within ecosystems focusing on developing the biology and fertility of soils as the basis of the entire farm ecosystem.

With proper management, like rotational grazing, sheep improve soil health and reduce the need for fertilisers. This makes sure the sheep do not graze down to the roots, where they might pick up illness from bacteria on the soil, and ensures the plants regrow. Carbon is able to be stored in these roots and therefore supports biodiversity above the soil. This reduces weed infestations and results in a diverse range of native pastures, a rewinding of the local landscape, whilst creating a beneficial diet for the sheep and improving wool quality.

Textile standards can help with the implementation of responsible wool practices:

Standards for fibres can help ensure responsibility is taken by creating a baseline of sustainability as standard. Whilst small scale farmers may not have the means financially to access certifications, they help push incentive for farmers acting without large concern for environmental welfare if they want to remain competitive within the a changing market. An example of this is the Textile Exchange Responsible Wool Standard (RWS) which is a voluntary global standard addressing the welfare of sheep and the land they graze on. Ensuring transparency and traceability along the supply chain by providing certification at every stage.

SUITABILITY OF WOOL FOR INTERIOR PRODUCTS

The properties of wool means that its exterior is hydrophobic, giving it **water repellent properties**, making it **naturally stain resistant**. While the interior is hygroscopic, attracting water, therefore is **moisture-wicking**. Wool can absorb up to a third of its weight in moisture without feeling wet, therefore is fantastic for **comfort**. As well as absorbing moisture wool can **absorb airborne pollutants** such as formaldehyde, sulphur dioxide and nitrogen oxides. Therefore by binding to harmful/ allergy causing substances in the air it makes wool **hypo-allergenic**.

Wool also has higher **natural elasticity** than any other natural fibre due to over-locking protein molecules allowing wool to be stretched and returned to its shape. This creates **robust textiles**. It is the helical, tightly coiled, structure of wool fibres that gives wool fabric this **durability** and resistant to breakage: *'Wool can endure wear and compression, and its natural bulk allows resistance to crushing and matting providing better appearance retention and resulting in less frequent replacement and waste.'* British Wool. This crimp of wool also means that **dirt finds it hard to penetrate the fibre**, allowing less frequent washing. Therefore wool as interior fabrics is **easy to care for** and maintain with the home.

Wool can be **diverse in its qualities**, so therefore provides a multitude of opportunities to **design varied fabrics** in texture, colour and weight. Besides being decorative as interior pieces wool has a high level of **flame retardancy**, making it ideal for safe application within the home.

Sources: UAL sustainable fibres and fabrics, The Society of British & International Interior Design, British Wool, International Wool Textile Organisation

BREATHABLE

Wool easily absorbs moisture particles and moves them away to evaporate into the air.

SOFT ON SKIN

Merino wool is one of the finest and therefore softest natural fibers. This makes it ideal for first layer clothing.

PERMEABLE

Wool has a top layer of natural wax, which makes it water repellent.

Resources: Nativa Precious Fiber



CREASE SMART

Merino wool fiber is like a spring that returns to its natural shape after being stretched or bent. This gives Merino wool garments a natural resistance to creasing.

CONTROLS BODY TEMPERATURE

Unlike synthetics, wool is an active fiber. It reacts to the weather to keep the body cool when it's hot, and warm when temperature drops.

NATURALLY ELASTIC

Under the microscope, the surface of wool is a series of overlapping scales of protein. In a yarn, this enables fibers to lock with one another, giving wool both strength and elasticity.

ODOUR-RESISTANT

Wool absorbs moisture particles and takes them away onto the surface for them to disappear when becoming in contact with the air. It can also absorb odour particles and hold them in, only to release them upon washing.

EASY TO CARE FOR

Most wool garments are machine washable in cold water.

UV RESISTANT

Being a natural fiber, wool has evolved through time to protect sheep from the external elements. Garments made in wool are naturally more protective of sun rays than those made in other fibers.



Images from Fabrics and Papers

LINEN

Alliance for European Flax-Linen & Hemp is the only European agro-industrial organization that serves as a global reference and brings together all players in the European Flax-Linen and Hemp value chain. From field to finished product.

Flax used for cloth is the oldest textile material, with linen documented 36,000BCE. Growing and processing flax is deeply rooted in Western European history with knowledge passed down generations. Much of that being forgotten in Modern age Britain, leading to the little contemporary research available on growing modern varieties in UK soils and climates. Traditionally flax is completed worked by hand, meaning an intimate understanding between human and nature is required to achieve the best linen cloth.

Sustainability of flax:

Flax can be used as a **rotation crop** every 6-7 years to preserve soil quality by structuring the soil resulting in an increase yield of 5% the following years crop

In the 100 days flax takes to grow, it only needs to be **irrigated through rainfall**. Its European growing conditions it is adapted to. Even retting can take place without added water in the process of dew retting

Flax has low nitrogen requirement and requires **low/no input** in terms of fertilisers.

Carbon sequestration properties considering the large amount of flax that can be planted in any one area.

Reintroducing flax projects to UK soil could **meet a growing demand for UK-grown fibre crops** to supply an emerging regenerative, sustainable UK textile economy. And would allow rediscovery of flax as an important part of British fibre history.

Flax processing can be conducted **locally** to where it is grown. With traceability of European flax guaranteed by certifications. With the majority of flax being grown in Western Europe, with France the world leader in production. With more modern flax test crops being grown for fibre in the UK, we can start to reintroduce processing equipment, innovative technologies and knowledge to re-localise UK linen.

All parts of the plant can be utilised, even the shives for mulch, animal bedding or fuel

Sources: Alliance for European Flax-Linen & Hemp, Innovative Farmers:
Growing Flax for Regenerative Textiles Report 2023



Flax is a bast fibre used for the creation of linen. Distinct from oilseed flax. Bast fibres are taken from the stem of the plant after a range of processes including:

- Rippling
- Retting
- Drying
- Breaking
- Scutching
- Hackling

From here higher quality line long line fibre is produced for spinning, as well as lots of short fibres often used in insulation.

SUITABILITY OF LINEN FOR INTERIOR PRODUCTS

Linen is up to 12 x stronger than its equivalent cotton counterpart meaning linen fabrics lifetime is dramatically increased, due to its **durability**.

Traditionally linen is sun bleached before further processing like dyeing. The properties of linen mean that it is very **receptive to natural dyes** - for the creation of **non toxic coloured fabrics for interior application**.

Linen is a **breathable** fibre when made into fabric and can help **regulate body temperature**. With linen being well suited for use as bedding and sheets, in close contact with the body. The **combination of linen bed linen with wool blankets and throws** can be seen in the image examples opposite, and create the perfect combination of **luxury, warmth and comfort**.

Linen is **naturally antistatic**, so has a reduce affinity for dust unlike man-made fibres, so is relatively easy to clean and is **non-allergenic**.

Linen actually becomes **softer the more it is handled** and touched, with linen textiles historically being passed down generations as heirlooms.

Linen fabrics can be **full of charm**, with slubs and imperfections re-framed as part of its luxury quality. Colour of unbleached linen will also vary depending on growing location and conditions of the flax, as well as the type of retting used on the fibre. However this uniqueness adds **character** and narrative to the cloth, allowing **greater connection to be made between the cloth, our natural environment and the user**.

Linen can be **woven into many weights of fabric**, including incredibly lightweight fabrics, creating an elegance when situated within interior spaces.

Linen is significantly more expensive than cotton (partially due to its smaller scale cultivation in comparison to cotton), However, if marketed correctly, this allows linen to sit within a **luxury market space**. **Linen within the interior market has always been synonymous with luxury**.

Sources: UAL sustainable fibres and fabrics, Linenshed, Ian Mankin England



Images from Piglet in Bed, Helen Izzard, Ian Mankin England

AMBER FRY

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