

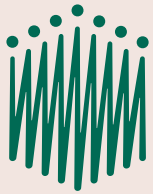


Alliance for European
Flax-Linen & Hemp

EVERYTHING
YOU NEED
TO KNOW ABOUT
**THE ALLIANCE
FOR EUROPEAN
FLAX-LINEN
& HEMP**

MARCH 2024

[@flaxlinenhemp](https://www.instagram.com/flaxlinenhemp)



Alliance for European Flax-Linen & Hemp

An Alliance that brings together and represents all links in the value chain, from field to textile, and embodies the solidarity and excellence of this European agro-industrial sector in the global marketplace.

The Alliance creates favourable conditions to foster a collaborative ecosystem at the service of end markets.

Our future ambitions:

To make Flax-Linen and Hemp the preferred premium, creative and sustainable fibres, globally.



Two natural plant fibres, two bast fibres

Two fibres with remarkable technical and environmental properties, Flax-Linen and Hemp are two historic fibres, that have been cultivated by our ancestors for tens of thousands of years.

Two European Flax-Linen certifications, created by the Alliance to guarantee the European traceability of the fibres [European Flax™] and textiles [Masters of Linen™].



A triple mission

To support all the Alliance's stakeholders.

- **Informing** members, brands, industry and consumers
- **Defending** and supporting the European ecosystem and skills
- **Promoting** European Flax-Linen and Hemp throughout the world

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**FLAX-LINEN,
HEMP,
EUROPE,
THE ALLIANCE**



Flax, an ancestral plant fibre of the future

Flax, a bast fibre* derived from plants and which was used to make textiles 36,000 years ago, is a fibre of civilisation. Since our ancestors first made Linen textiles from this ancient fibre, it has both served religious purposes and been the subject of popular legend: Alexander the Great's Linen armour, the linothorax, is said to have protected him during his conquests. Linen has since entered the world of fashion, where it has freed itself of seasonal conventions and gains attention on the catwalk. Today, industry players in search of a premium and sustainable material are using this high-performing and creative fibre. Looking back at Linen's past takes us on a symbolic, artisanal, technical and stylistic adventure through human history: during each era, Linen has reinvented itself, and the reason for its endurance is clear. Flax culture and cultivation is rooted in Western Europe through the transmission of skills and expertise to successive generations. It has appealed to entrepreneurial farmers and designers, who have been able to invent, renew and innovate through the ages, inspired by the remarkable properties of Linen – which have since been scientifically confirmed. Today, these properties are in line with the societal and environmental expectations of the modern consumer, enhancing the storytelling power of Flax, an internationally renowned minority fibre (<0.5% of global textile fibre production**).

*Fibres extracted from outer envelope of the plant

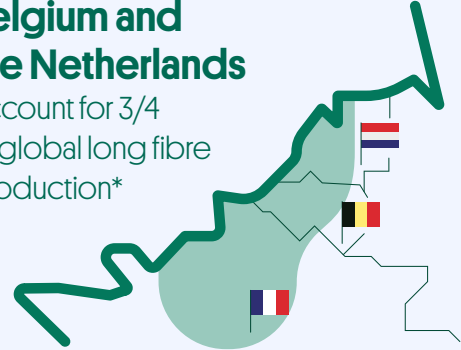
**Long and short fibres



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France, Belgium and the Netherlands

Account for 3/4 of global long fibre production*



*Long fibres: the main product of scutching, used in the textile industry

Western Europe, a global leader in Flax-Linen

A local fibre, Flax is grown in Western Europe on a wide strip of land extending from Southern Normandy to Northern France, from Belgium to the Netherlands, and from Caen to Amsterdam. The quality of European Flax is the result of a unique confluence of a naturally moist ocean climate, fertile soil and the traditional expertise of Flax growers. It is a culture with close ties to its terroir, suitable for crop rotation cycles without irrigation (barring exceptional circumstances) and low input farming, with zero defoliants, zero GMOs and zero waste (100% of the plant is used). Flax growing promotes soil regeneration for later crops, encourages agricultural biodiversity and helps preserve ecosystems.

The production of Flax, the only plant-based textile fibre to originate in Europe, was amplified during the Industrial Revolution. Today, three-quarters of the world's scutched Flax is grown in Western Europe, and France is the global leader. In this sector of excellence, Flax growing and the economy of Flax cannot be delocalised: Flax promotes employment in farming and industry, relies on a highly qualified local workforce, and fully meets International Labour Organisation standards.

From plant to fibre, the entire value chain is virtuous, making Europe the international reference for Flax-Linen in quantity, quality and responsibility.

Textile Hemp, a growing sector

Another bast* fibre, Hemp is also a plant with a long history. It originated in Asia before travelling across the world. From the first fabrics to paper to pharmacopeia, ships' ropes and the recent environmental revolution, new uses for Hemp – a multi purpose plant – are constantly being discovered. It was on Hemp paper that Gutenberg printed his first Bible in 1456, and the same is true of the United States' Declaration of Independence. Long banned and forgotten in the West in favour of cotton and then nylon, Hemp growing has been able to hold its own in France, the leading European producer today.

Hemp is popular around the world for its environmental qualities. It is the material par excellence for the paper industry, eco-construction and the automotive industry, where it is used for its lightness and durability. Cannabis sativa, grown for agricultural and industrial uses, is highly regulated in Europe: seeds are certified and included in a European catalogue, and varieties cannot contain more than 0.3% THC.

In the past it was mostly grown for its seeds (food, cosmetics, bird feed) but also for fibre and shives, Hemp is now seeing new uses in textiles and creating new areas for growth in Europe and around the world.

*Fibres extracted from outer envelope of the plant



Textile Hemp in Europe

4 types of fibres

Different stages of technological maturity

- **COTTONISED SHORT FIBRES** for open-end use, with a variable percentage of Hemp and cotton, for example (around 30% Hemp)
Interiors, clothing [jeans]
Industrial stage

- **SEMI-LONG FIBRES** for the production of 100% Hemp sliver (wool technology)
Interiors, ropes and string
Industrialisation stage

- **LONG FIBRES** using the same principles as Flax to obtain a 100% Hemp yarn and textile
Textiles for apparel:
Challenges in mechanising the harvest and the scutching of Hemp straw
R&D Stage

- **CELLULOSIC FIBRES** made from shives
R&D Stage

The technical itineraries differ significantly for each process.



The Alliance for European Flax-Linen & Hemp: an international reference

The Alliance for European Flax-Linen & Hemp was born of the collective will of women and men committed to expanding and building on the value of a European sector of excellence, from field to finished product, from producer to consumer. Protected by the French freedom of association law of 1901, for more than 70 years, the Alliance has been bringing together all players and all stages of production along the European Flax-Linen and Hemp value chain.

Today, the Alliance is the joint product of an ambitious sector in a globalised market. It encourages dialogue with the European authorities and creates an environment that boosts business competitiveness by fulfilling a triple mission: informing members, brands, industry and consumers, supporting the European ecosystem and skills, and promoting European Flax-Linen and Hemp as the premium fibres of choice around the world. A place for reflection, analysis, cooperation and strategic orientation, the Alliance includes over 10,000 businesses from 16 European countries, united by collective values: innovation, the importance of scientific evidence, and respect for people and planet.

The Alliance initiates and organises economic studies and research on the environmental and remarkable properties of its fibres, providing all of its interlocutors with proven economic data, accurate environmental information and reliable scientific evidence. It works to increase the international visibility of its fibres, whose technical and environmental qualities have inspired global design and are creating new opportunities for industrial innovation. It guarantees the traceability of Flax-Linen through two certifications which it established for this purpose: EUROPEAN FLAX™ (2012) and MASTERS OF LINEN™ (1993). Within the Alliance, Hemp, which until now has been mostly used in high-performance technical applications, will soon follow the same path as Flax-Linen in the world of textiles, benefitting from the Alliance's momentum.



The Alliance: Who We Are

- **Committed men and women**
- **A collective sector of excellence** that brings together the entire value chain, both upstream and downstream, from farmer to textile
- **An ecosystem** that welcomes all stakeholders in European Flax-Linen and Hemp
- **Modern governance** with an all-volunteer Board of Directors, made up of heads of companies working along all links in the European value chain
- **A European approach to problem-solving** that creates synergy with national trade organisations
- **A multidisciplinary team** of experts and generalists

The Alliance: Our Members

Members of the Alliance for European Flax-Linen & Hemp are the representatives of an organised, responsible and committed value chain, both upstream and downstream, from field to textile, involving manufacturers, brands and retailers. The production and processing chain of the Alliance includes farmers, scutchers, spinners, knitters, weavers and traders, and integrates producers and processors of high-performance reinforcements.

Within this open collective that engages in near-constant dialogue, each link in the chain works fully in awareness of the next. Members are united by shared values, which guide their efforts to realise a common ambition: to make Flax-Linen and Hemp the premium sustainable fibres of choice around the world.

The values of the Alliance for European Flax-Linen & Hemp



Be United

Working together by drawing on the diversity of Alliance members, united by a joint passion for sharing knowledge, and supporting each link in the value chain in the spirit of collaboration.



Bridging tradition & innovation

Connecting tradition and innovation to place innovation at the heart of its work, by passing on knowledge and skills, with the aim of improving them.



Cultivating respect

Cultivating respect and committing, through all its work, to respecting people and the planet.



Maintaining our obsession with evidence

Maintaining our obsession with evidence to build on the body of scientific proof.



The three missions of the Alliance for European Flax-Linen & Hemp

- **INFORMING**
Members, industry, brands and consumers
- **DEFENDING**
The European ecosystem and European skills
- **PROMOTING**
European Flax-Linen and Hemp as the preferred sustainable premium fibres around the world



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**A EUROPEAN
SECTOR
FOR A GLOBAL
MARKET**

“Our ambition is clear: to turn European Flax-Linen and Hemp into the premium sustainable fibres of choice around the world.

“To achieve this, our strategic trajectory focuses on three areas: expanding our ecosystem, becoming the international reference that is innovative, creative and sustainable, and, finally, guaranteeing quality and embodying desirability. Today, European Flax-Linen and Hemp are aligned with modern expectations.”

Bart Depourcq,
President of the Alliance
for European Flax-Linen & Hemp

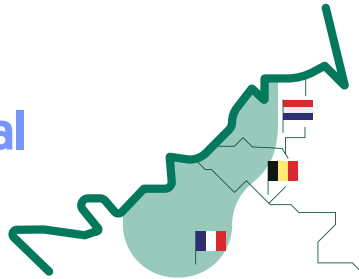


Key figures in the production of Flax and Hemp

3/4
of the world's
long* fibres are produced in France,
Belgium and the Netherlands

*Long fibres: the main product of scutching, used in the textile industry

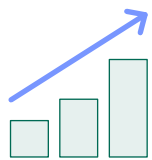
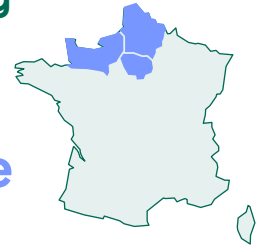
Europe,
the #1 global
producer
of Flax fibre



Currently, Flax fibres* account for
< 0,5% of global textile fibre
production

*Long fibres + short fibres

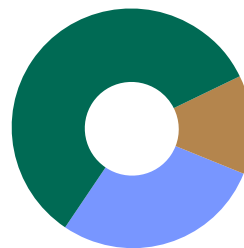
**3 main Flax-producing
regions in France:**
Normandy
Hauts-de-France
Ile-de-France



+ 133% increase of area
under Flax cultivation
between 2010 and 2020

150,000 hectares in Europe
of Flax in 2023 (of which 87% in France,
131,000 hectares)

France is the global leader in long
Flax fibre production



62% France

14% Belgium and
the Netherlands

24% Rest of
the world

140,000 tonnes in Europe
of long fibres in 2023 (of which
122,000 tonnes in France)

8 spinning mills

active in Europe/Euromed region
**+3 spinning mill projects in France
and Portugal**

The Markets for Linen

Linen inspires designers and the industry

European Linen textiles, created from different batches of fibres from different farms and harvests, cannot be ascribed to any one country or year.



60%
FASHION
All segments
By volume



30%

HOME
Furnishing
Lifestyle
By volume



©Libeco

©Designers Guild

©Lapuan Kankurit



©Baralinge



©Porsche



©Egide

10%
TECHNICAL
Applications
& coproducts
By volume



©AeroFLAX

©Ecotechmillin

A growing European industry and global leader

As the perfect response to modern expectations of respect for planet and people, Flax remains a minority natural fibre as quantity must be balanced with quality requirements. The quality of European Flax is ensured by its local dimension, terroir, climate and traditional skills. Offering excellent growing conditions and yields, Western Europe is the global leader in the production of premium Flax fibre, with France occupying the leading position among producers – the country alone supplies 59% of global Flax fibre.

A premium international reference

The Alliance for European Flax-Linen & Hemp is continuing to strengthen its economic role in today's globalised context. It is creating favourable conditions by consolidating indicators, developing adapted tools for all players along the value chain and spearheading a collective strategy focused on key measures to expand the European Flax-Linen and Hemp ecosystem, thereby anticipating market demand and identifying new opportunities for growth.

An independent Economic Observatory to support development

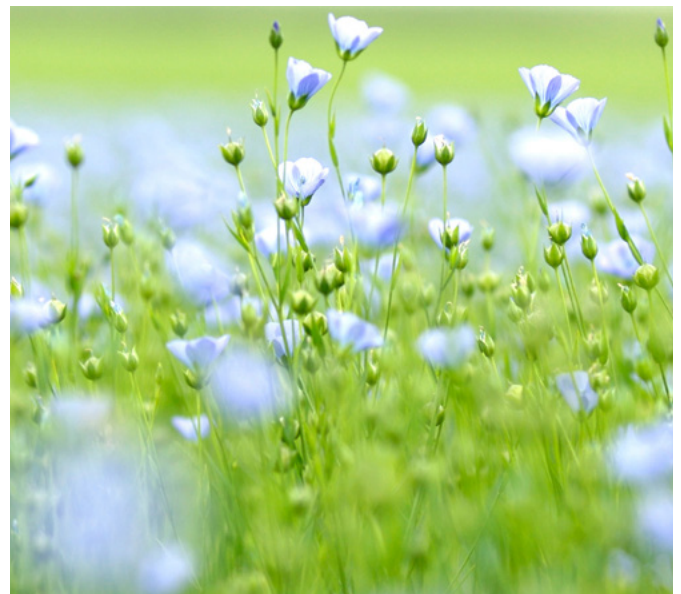
In the context of the sector's global expansion, the Alliance has created a dedicated economic observatory to collect, develop and share information and analysis of a production market which, for growing and spinning alone, extends over three continents. The Observatory's reliable and structured economic data are provided regularly to members and partners, and it continuously offers and distributes a variety of specific tools to provide decision-making support: an overview of global markets, regulatory monitoring, consumer trends (Flax-Linen Barometer), weak signal analysis and dedicated economic studies.

A collective multi-channel strategy for new Flax-Linen and Hemp end markets

The European Flax-Linen and Hemp ecosystem is constantly evolving. The Alliance is gradually integrating new types of players within its sphere of influence: brands and European manufacturers offering Flax-Linen and Hemp in their ranges, to fully involve them in the sector's strategic reflections. Strengthening collaboration with brands working in fashion, decoration, design and cutting-edge industry allows for better identification of initiatives and developments to be carried out at each link of the chain, to increase the share of natural European fibres in products and collections.

The Alliance is currently involved in a structuring process with the Hemp sector, which has long focused its growth on non-textile sectors. Today, the goal is to develop a complementary offer of this plant fibre for markets, which is in growing demand.

Europe is the second global producer of industrial Hemp, and France ranks first in Europe with 22,000 hectares under cultivation in 2022, reflecting a true rebirth for a sector that had almost disappeared from mainland France in the 1960s. The historical markets for European Hemp include food, cosmetics, paper products, construction, mulch and animal bedding. More recently, the Hemp market has entered the plastics processing sector, and today, it has many new prospects in the world of textiles.



Future challenges for the European Flax-Linen and Hemp sector were analysed in a 2023* study, whose lessons have helped accelerate reflection by involving all stakeholders in the ecosystem, including brands and institutions.

Based on the results of this study, the Alliance has identified five priority issues.

Two related to agriculture and fibres:

1. Produce better — In the face of climate challenges, the Alliance wishes to strengthen agricultural R&D and innovation while continuing to focus on biodiversity conservation with an efficient and low-input agricultural technical itinerary.

2. Produce more — How can we get better at anticipating the demand on the fibre market?

To respond to this challenge, two tools must be activated:

- Easing the tight supply would lead to an increase in production capacity (harvesting equipment, more efficient primary processing tools) by innovating at the scutching phase and analysing potential expansions of production areas.
- Supporting the development of a European textile Hemp sector while respecting the current Hemp sector and its current markets.

One at the fibre and spinning level:

3. Defining and developing a common reference framework for describing fibre quality to complement existing sensory references thanks to R&D in optical imaging.

This work is being performed jointly by European scutchers and weavers through a working group.



One related to French and European spinning:

4. Creating a competitive advantage for local industry, through R&D investment to reduce production costs and reduce the need for labour at both wet and dry spinning mills (mechanisation, automation, etc.). This is an industrial approach involving local machinery manufacturers and operators. These investments would help promote the creation of companies with a higher production capacity and to become sourcing references for premium and luxury brands.

One sector-wide issue:

5. Creating a dedicated framework for brands to enhance communication between each link in the Flax-Linen value chain. This dialogue will need to address the issues of fibre traceability and anticipating supply and should also measure the evolution of Linen in collections.

*Collective Study on Flax Fibre & Linen Textile, carried out with Kea Partners in collaboration with the Institut Français de la Mode and with the support of the Normandy Region.

Key production figures for Hemp fibres

Europe #2 in global production

With **55,000 hectares** of Hemp for all uses in 2020

+12 countries in Europe grow Hemp textile in 2021



China #1 global producer of Hemp

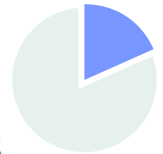


with **65,000 hectares** of Hemp for all uses



France **#1 in Europe** with around **20,000 hectares** of Hemp for all uses, including **at least 10% for Hemp textile in 2023**

including **13,000 hectares** of Hemp textile under **cultivation in 2023**



The textile uses of Hemp



A multitude of uses

While still small today, the share of Hemp in ready-to-wear and decoration is developing, and the structure of the European sector is changing.

Clothing

The presence of Hemp in ready-to-wear is rapidly increasing, bolstered by growing consumer interest in natural and renewable fibres.

Denim manufacturers particularly appreciate the resistance of the fabric, which provides for a smoother, more delicate feel, particularly through cotton blends. Hemp is also being used for underwear, where it has great potential.



Home

Hemp has always been part of the domestic realm. From household textiles to bedding and upholstery, its solid, greige-coloured fabric is a robust classic and the incarnation of “naturalness”.



3

**FLAX-LINEN
AND HEMP:
CREATIVE,
INNOVATIVE
AND SUSTAINABLE
PREMIUM FIBRES**

Flax: a creative, innovative and sustainable premium fibre

For 15 years, the European Flax industry has been experiencing extraordinary changes and growth. The Alliance for European Flax-Linen & Hemp has pioneered a means to guarantee the systematic scientific validation of the intrinsic properties of Flax and the establishment of origin traceability certifications. Lending itself to creative innovations, Flax fibre is used in new textile processes to make knitwear and washed Linen, and in innovative technical applications by entrepreneurs who are constantly adapting and reinventing themselves. European Flax™ fibre is a premium material for conscientious makers interested in meeting the expectations of modern citizens who expect quality as well as high societal and environmental values in innovative and creative products.

The industry's steadfastness and success is based on three fundamental principles: its quality standards, its creative and innovative dynamism, and the sustainable properties of its fibres. Throughout its history, the Alliance has continued to promote innovation through various strategic projects, acting at its level to leverage sustainable transition in the world of fashion and lifestyle.

Two certifications for Flax of European origin, true industry brands

The Alliance strives to prove and publicise the remarkable properties of Flax and its products, and to establish certified traceability through two certifications. With very strong growth since 2020 (+733% in three years), European Flax™ certification has become the essential passport for European Flax fibre, while Masters of Linen™ certification guarantees the traceability of Flax textiles processed by European companies on European sites and in the Euromed 1 zone for spinning.



EUROPEAN FLAX™

THE GUARANTEE OF TRACEABILITY FOR PREMIUM QUALITY FLAX FIBRES GROWN IN WESTERN EUROPE FOR ALL END USES.

A plant fibre, produced through integrated crop management farming, without irrigation (barring exceptional circumstances) or GMOs.



MASTERS OF LINEN™

THE GUARANTEE OF TRACEABILITY FOR LINEN MADE BY EUROPEAN COMPANIES ON EUROPEAN AND EUROMED 1 SITES.

A textile of excellence, local at all stages: from the vegetal European Flax™ fibre, to yarn and fabric.

A dynamic European textile – innovative and sustainable

To continue anticipating market demand and regulations, the Alliance for European Flax-Linen & Hemp has always preferred responsible innovation. To this end, it is constantly working to improve traceability and its methods for measuring the environmental impact of its fibres, products and processes to provide brands with robust datasets to integrate into their CSR calculations.

The environmental footprint of European Flax according to the PEF method

European Flax is the first agro-industrial sector to measure its environmental impact using PEF (Product Environmental Footprint), a new European method of reference established by the European Commission. The first LCA (Life Cycle Analysis) for European scutched Flax was published in February 2022, resulting in a dataset of European Flax-certified long fibre grown and processed in

France, Belgium and the Netherlands for calculating the impact of products made from Western European Flax based on the 16 PEF criteria.

As a voting member of the PEF Apparel and Footwear technical secretariat, the Alliance for European Flax-Linen & Hemp is participating in various European Commission working groups to co-construct a methodology for measuring environmental footprint. Its active participation makes it possible to involve Flax-Linen in structuring the sector and raising awareness of what is specific to its processes.

Environmental trajectory: a mapping of Flax processes, a tool brands can use for measuring impact

In June 2022, to help brands identify and measure the impact of products containing Flax, the Alliance published a Flax-Linen process map, a reference on production and processing routes to encourage dialogue between brands and their Flax-Linen value chain, allowing them to identify the datasets they need for measuring product impact. Following the scutched European Flax™ dataset, each processing stage of long and short European Flax™ fibres will be included in a dedicated environmental footprint dataset representative of the industry average in Europe (re-processed short fibres, hackling, preparation for spinning – spinning, weaving, knitting). Deliverables are expected in the second half of 2023 and should be made available in European databases in 2024.

By organising this collective effort, the Alliance is also supporting its members in calculating the impact of their own processes, to provide even more tailored responses to their clients' demands.

The Flax Blockchain: digital traceability

Through the traceability working group of the Fashion and Luxury Industry Strategic Committee, the Alliance for European Flax-Linen & Hemp launched a Flax pilot in Europe to identify the complete traceability of two 100% Linen fashion items: a blouse and a T-shirt. These two products were made along a value chain made up of 19 European businesses (in France, Belgium, Italy and the Netherlands). These businesses opted for an innovative



digital platform: TextileGenesis – Lectra Group for external, fibre forwards digital traceability. Testing under real conditions confirmed the relevance of the platform. The Flax Blockchain will help encourage the use of Linen in collections while meeting the need for identifying the origin of raw materials and the production process.

A description framework

Optic imagery should soon complement the organoleptic method to establish a reference for describing European Flax™ fibres. The goal of this innovation would be to harmonise quality, devise economic scenarios with all links in the textile value chain, especially spinners, and to reinforce the authority of this premium Western European fibre.

Flax-Linen & Hemp Tex and Tech: innovation in Flax-Linen and Hemp

Recent scientific research has attested to the bold innovative spirit of Flax-Linen and Hemp fibres. The validation of their technical properties has helped respond to the demand of the traditional textile industry in fashion and decoration as well as materials with added technical value. Sectors such as construction, the automotive industry, sports, design and music rely on the properties of Flax-Linen and Hemp to create products that meet consumers' new expectations.



The Alliance: steering and managing a network of experts

The European Scientific Council of the Alliance promotes technical innovation in composites

In order to support innovation within the European Flax-Linen and Hemp sectors, in 2009 the Alliance established the European Scientific Council, laying the foundation for a long-term R&D strategy. Fully committed to the composite sector and industry, the 10 international experts in materials research pool their expertise on Flax-Linen and Hemp fibres and bridge basic and applied research by participating in Open Innovation. This council plays a key role in applied research and establishing contact between players in Flax-Linen and Hemp innovation, harmonising and standardising methods and techniques, conducting dedicated training sessions (technical days), and sharing information through reference publications.

Industry expert networks

For the upstream – agriculture, growing and scutching – the Alliance works with agricultural institutes in France, Belgium and the Netherlands.

When it comes to using co-products, it conducts studies with experts on biomass and sustainable development.

Finally, for challenges in textile innovation, it works with specialised laboratories according to the specificities of the themes in question.

The entirety of the Alliance's network of experts and European strategic partners plays a major role and contributes to actions taken for the benefit of the sector.

The properties of European Flax™ fibre

Unique functional and environmental properties aligning with current societal expectations.



CSR

- **Proximity and traceability**
- **No irrigation⁽¹⁾ from sowing to harvesting**
including dew retting [vs water retting]
- **Certified and GMO free⁽²⁾ seeds**
- **Renewable resource**
- **Helps preserve soil quality**
Grown in rotation: contributes to optimal soil structure and increases yield of the following crop⁽³⁾
- **Low input crop**
Reasoned use of pesticides and fertilizers⁽³⁾
- **Zero-waste plant**
100% used
- **Scutching: fibre extraction**
Mechanical process, without solvents
- **Ethical production**
Performed by a skilled local workforce



TEXTILE

- **Ventilation and breathability⁽⁴⁾**
- **Thermo-regulation⁽⁴⁾**
- **Absorption and moisture management⁽⁴⁾**
- **Positive influence on sleep⁽⁵⁾**



TECHNICAL

- **Rigidity and lightness**
- **Strength and resistance**
- **Sound insulation**
- **Thermal insulation**
- **Vibration damping⁽⁶⁾**

(1) Barring exceptional circumstances

(2) Source: *European Flax™ Charter*, 2012

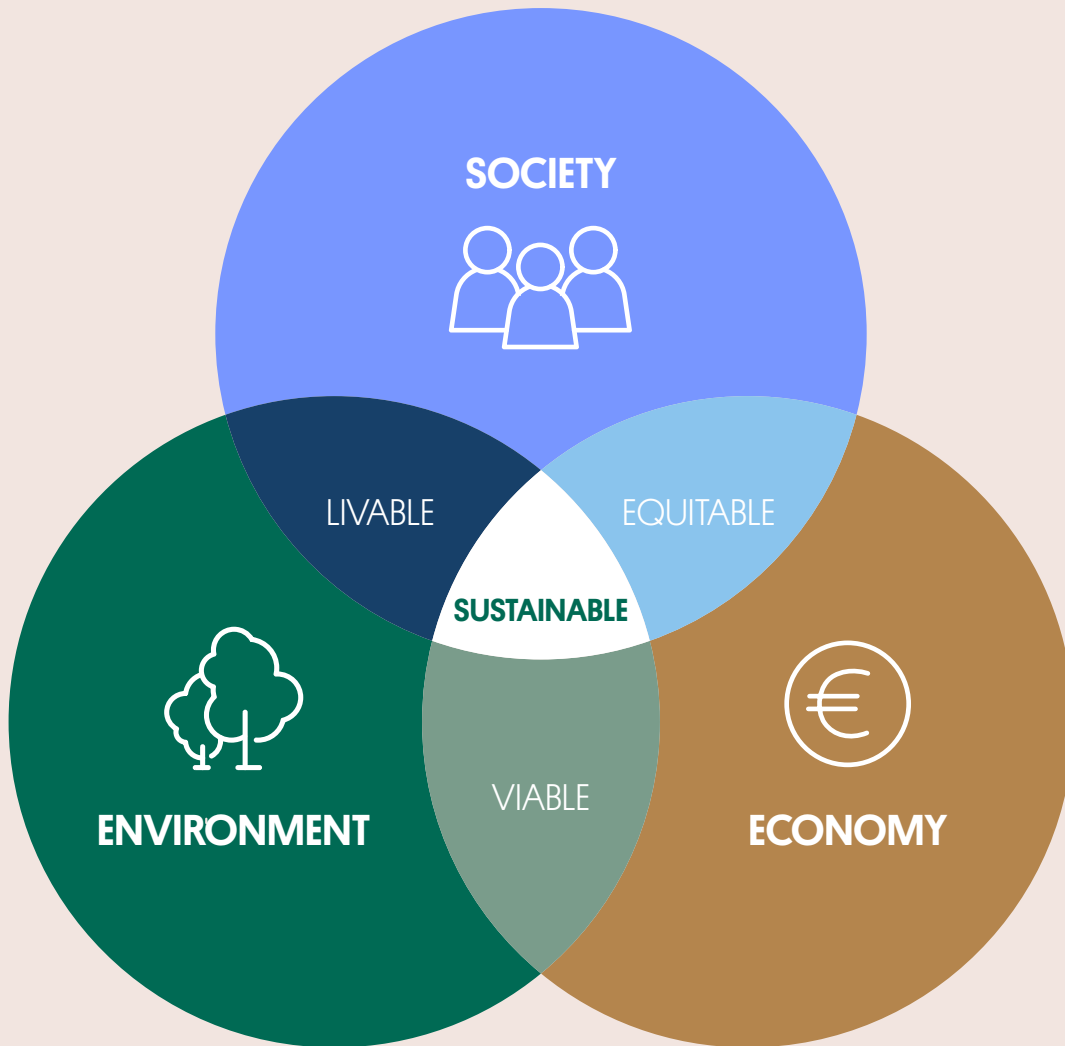
(3) Source: *Life Cycle Assessment (LCA) of European Flax™ Scutched Fibre*, February 2022

(4) Source: *Study Linen Comfort and Performance*, Cetelor Lab for the Alliance, 2014

(5) Source: *Study The Impact of Flax-Linen on sleep quality: A textile performance study*, Cetelor Lab for the Alliance, 2022

(6) Source: *Study Vibration Damping*, The enlarged European Scientific Council of Alliance for European Flax-Linen & Hemp, March 2023

Flax-Linen corresponds to the three pillars of sustainable development and European regulations:



SOCIETY

Ethical production, local and qualified labour, compliance with standards of the International Labour Organization.

ENVIRONMENT

Sustainable agriculture that preserves biodiversity.

ECONOMY

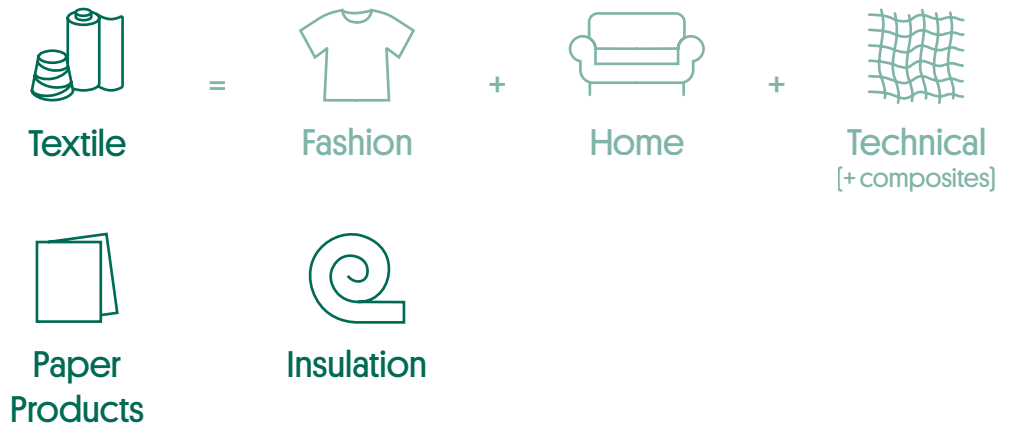
A sector that boosts agricultural and industrial employment, skills expertise and European jobs which cannot be relocated.

Flax, a plant of which 100% of its products are valued:

LONG FIBRES



SHORT FIBRES



SHIVES



SEEDS



The Alliance for European Flax-Linen & Hemp is committed to growing the European textile Hemp sector

At the request of European Flax and Hemp producers, players in the textile industry and major brands, the Alliance has made a pragmatic and ambitious commitment to grow and co-construct a local Hemp textile industry. Hemp could rely on and capitalise on the successful experience of Flax, spearheaded by the Alliance: European Flax today is a pioneering fibre in innovation and environmental footprint impact.

The Alliance's partnership with the European HEMP4CIRCULARITY project

The Alliance is partnering with Valbiom, an association of sustainable solutions for a biobased economy, based in Wallonia, Belgium, as part of the Hemp4Circularity project. Eleven multidisciplinary partners and five associate partners have come together to create one circular and local textile Hemp sector focused on long fibres. Officially launched on June 6 and 7, 2023, this triennial project is supported by the European Union as part of Interreg (the Interreg North-West Europe European Territorial Cooperation programme) with a budget of €3.8 million.

The Alliance oversees two additional missions:

1. Environmental footprint:

- Create a template for the collection of agricultural data using the PEF / Product Environmental Footprint methodology of the European Commission
- Ultimately produce a collective dataset for Hemp long fibres and contribute to reference databases used to calculate robust LCAs / Life Cycle Analyses

2. Communication & promotion:

- B2B: Working with European textile players by deploying the Alliance's operational plan (professional trade shows, directory, sourcing platform, exploratory showroom, etc.)
- B2C for consumers
- Identify and train "Hemp Ambassadors".

About Valbiom

As a specialist in the biobased economy for 20 years, Wallonia-based Valbiom supports territories, municipalities, the services of Wallonia, project developers and industry. Valbiom draws on cutting-edge scientific, technical and economic skills to provide a tailored response and professional services. Thanks to its expertise in biobased materials and bioenergy, it is propelling the economy of Walloon region of Belgium towards local and sustainable renewable solutions. As part of its public missions, Valbiom acts as a regional driver of the transition to a biobased economy.

www.valbiom.be



About the European HEMP4CIRCULARITY Project

11 multidisciplinary and complementary partners committed to a common goal: to create one local, circular Hemp industry.



BELGIUM:

- **F'TILaB+** and the AgroFoodNature agronomy research centre
- **HOGENT** University of applied science and the arts, textile and clothing research centre
- **Hylar**, manufacturer of harvesting machines
- **Inagro**, agricultural research centre
- **Libeco**, Linen weaver
- **Valbiom**, an association of sustainable solutions in a biobased economy

FRANCE:

- **Alliance for European Flax-Linen & Hemp**, a European agro-industrial organisation
- **Lin et Chanvre Bio**, french association
- **Safilin**, dry and wet spinner

NETHERLANDS:

- **Delphy**, agricultural research and consulting, agricultural data digitisation
- **Van de Bilt**, seed selector and producer, Flax scutching and hackling

GERMANY:

- **Natuvalis**, decortication facility

FIVE ASSOCIATED PARTNERS ROUND OUT THE INITIATIVE

- **BAFA**, a German Hemp decorticator
- **Bioeconomy for Change**, French competitiveness cluster
- **EIHA**, The European Industrial Hemp Association
- **ETP**, the European Technology Platform for the Future of Textiles and Clothing
- **HEMPAGE**, German fashion brand

- Interreg North-West Europe Programme (NWE)
- March 23, 2023 – March 22, 2026
- Approved on March 23, 2023
- Budget: 3.8 million euros

- Financing: European Regional Development Fund (ERDF): 60%
Up to 30% co-financing from the regions:
 - **Normandy France** (for **Lin et Chanvre Bio**)
 - **Wallonia Belgium** (for **Valbiom**)
 - **TBC: West Flanders and East Flanders** for **Inagro, Hylar, and Hogent**

European textile Hemp within the Alliance

Textile Hemp: a strategic commitment to diversification for the Flax industry and to increasing value for the industrial Hemp sector

At its General Meeting at the end of 2022, the Alliance unveiled the work of its representatives (16 elected directors for Flax-Linen & Hemp) on a new name and three strategic areas:

- **Nurturing and growing a virtuous and unified ecosystem for European Flax and Hemp**
- **Turning the Alliance into an innovative and sustainable international reference**
- **Guaranteeing quality and embodying desirability**

To this end, the Alliance commits to supporting a textile Hemp sector in developing a collective roadmap in line with current developments in industrial European Hemp (seeds, shives, technical fibres – 21,700 ha of Hemp for all uses in France in 2022, incl. about 10% for textile markets and 55,000 ha under cultivation for all uses within the EU) and in view of China's leadership in textile Hemp (12,000 ha of textile Hemp in 2021 for a total of 65,000 ha for all uses).



The Alliance establishes a Textile Hemp Steering Committee made up of renowned experts

On 8 June 2023, the Alliance tasked seven experts from the Flax and Hemp industries to identify strategic priorities and outline a collective operational roadmap:

- What are the technical itineraries for short fibre textile Hemp? And long fibre?
- Challenges of agricultural mechanisation and processing of fibres, yarn, fabric, etc.
- CSR: how can we capitalise on the work and production methodology for European Flax™ certified fibre, the first textile fibre to have a collective Life Cycle Analysis based on PEF indicators?
- What functional properties need to be scientifically proven?
- How can an appropriate promotion and communication strategy be adopted that would be consistent with the existing one?
- What certification could be used to defend, organise and promote textile Hemp?



This select steering committee is made up of seven pioneering leaders on issues related to textile Hemp, from field to finished product:

- **Henri Pomikal**, Flax farmer and scutcher, founder of the long fibre textile Hemp branch at **the Linière du Nord de Caen cooperative** (with **Lin & Chanvre Bio**), France
- **Benoit Savourat**, grower and manager of **La Chanvrière**, technical fibres, and representative of **Interchanvre** at the Alliance, France
- **Olivier Joreau**, manager of **Cavac**, a cooperative specialising in bio-based insulation (Hemp, etc.), and elected director at **Interchanvre**, France
- **Denis Druon**, founder of **The Flax Company**, supplier of textile fibres which expanded its Flax selection to include textile Hemp solutions supported by a private LCA, France
- The directors of two leading European spinning mills which have a selection of dry- and wet-spun Flax and Hemp yarn
 - **Pierluigi Fusco-Girard** for **Linificio & Canapificio** (**Marzotto Group**), Italy, Lithuania and Tunisia
 - **Olivier Guillaume** for **Safilin**, France and Poland
- **Raymond Libeert**, manager of **Libeco**, a Flax and Hemp weaver for fashion and the home that also has a selection of finished products, Belgium

Linificio & Canapificio, Safilin and Libeco, three companies that are **Masters of Linen™** certified, 100% made in Europe + Euromed 1 region.

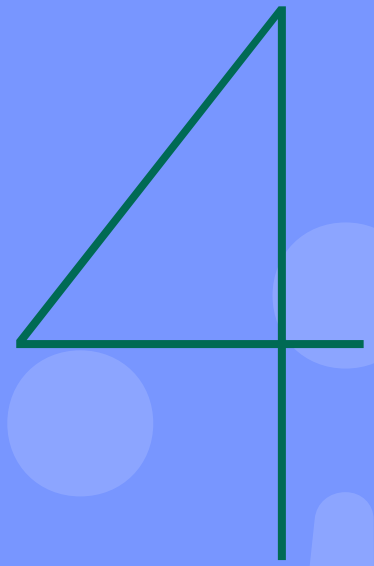
The Steering Committee can use existing work that is in the process of being referenced.



“Together, let us build a textile Hemp industry by leveraging collective action, experiences, initiatives, and work already done – things that have been tried and tested – by interacting with reference organisations and sharing the results in open-source format to create an environment favourable to the development of individual projects and local initiatives.”

Bart Depourcq,
President of the Alliance for European
Flax-Linen & Hemp





**AN ECOSYSTEM
WITH
INTERNATIONAL
REACH**

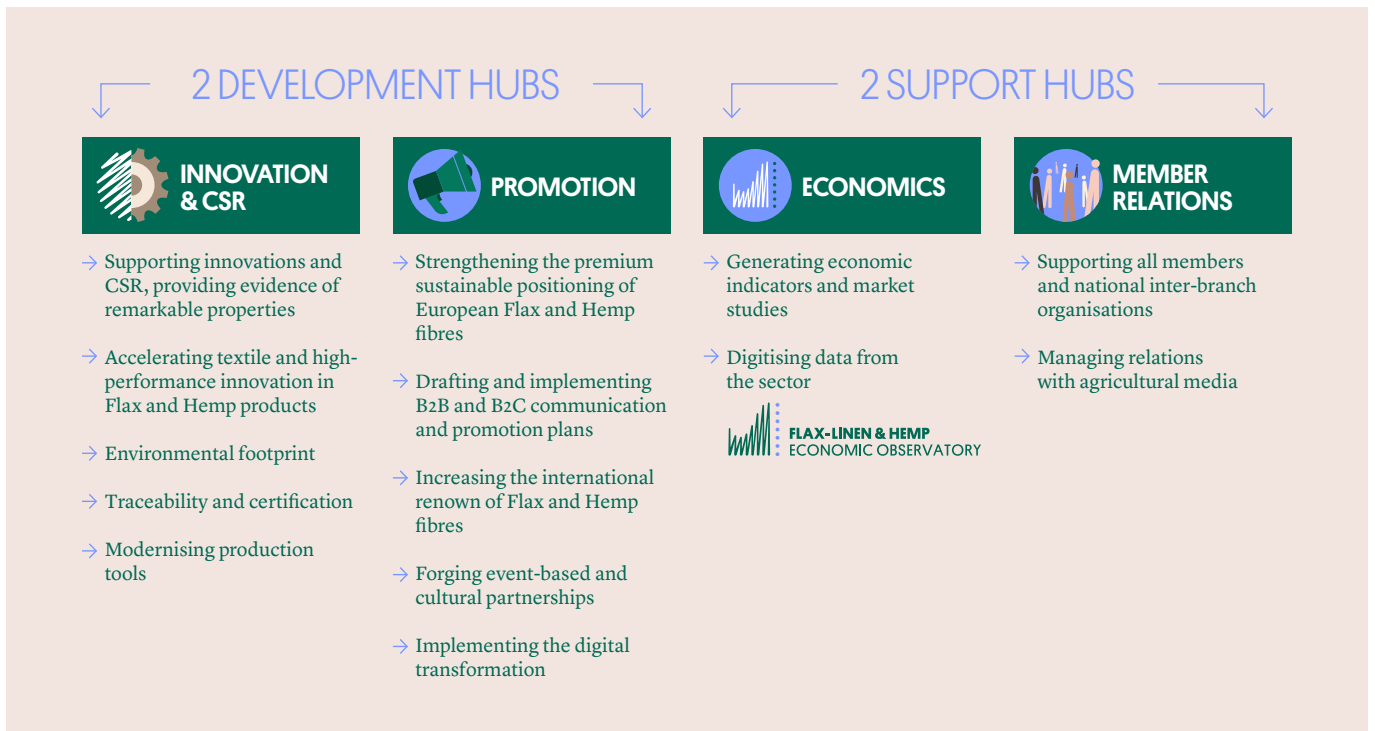
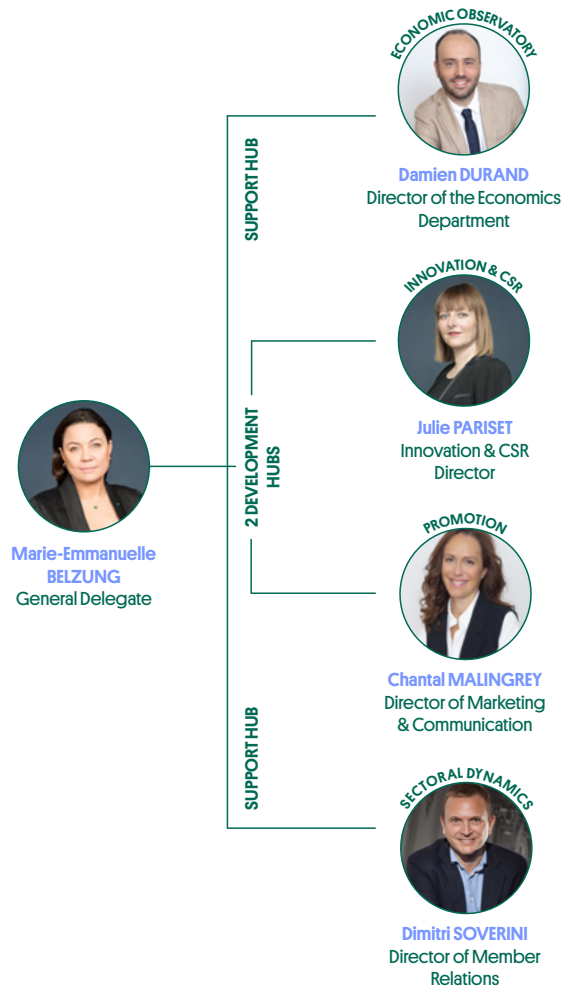
Collective momentum

The European Flax-Linen and Hemp ecosystem embodies collective momentum with an open spirit and promotes open innovation. A platform that brings together stakeholders and available knowledge, the Alliance serves the entire sector in the spirit of solidarity to ensure the global leadership of its fibres. It involves each link in the European value chain to outline a common strategy and support the unique path of all members, large and small.

A multidisciplinary team

A team of experts, brought together to meet the current and future challenges facing the industry in an interconnected and constantly changing world, provides support to the network of members on a daily basis.

The Alliance team, comprising four hubs, possesses the relevant expertise, information and networks to meet the demands of all of the Alliance’s internal and external stakeholders.





Open source B2B and B2C

One important feature of the Alliance is that it provides open access to a large volume of data and resources to anyone with an interest in Flax-Linen and Hemp. This open-source approach makes it possible to provide information that is needed for inspiration, design, innovation and development: scientific and social research as well as a materials library are some of the services and information that are made available.

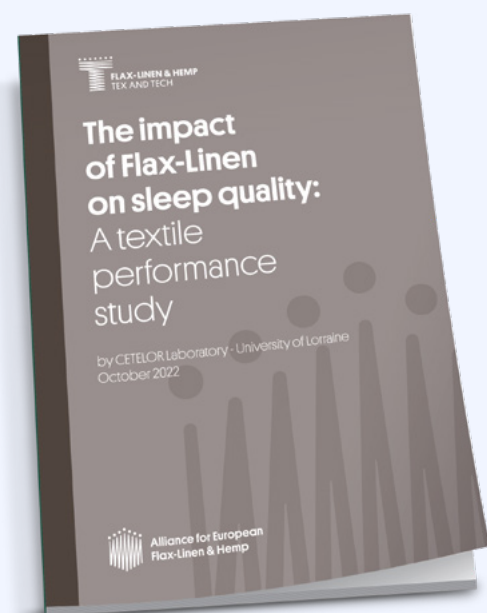
Research studies provide scientific validation of the properties of the fibres

The Alliance regularly conducts and publishes studies to provide strategic analysis and reliable and well-documented economic, environmental and scientific data.

The Alliance also organises many partnerships with cultural events, such as the Design Parade Hyères Fashion Festival, the Palais Galliera and the Museum of Decorative Arts in Paris. And the publication of a book dedicated to Flax-Linen: *Flax-Linen, Fibre of Civilisation(s)*.

Studies and research

Strategic analysis and research into our fibres to provide reliable, well-documented economic, environmental and scientific data.



Customised support for members and certified brands

The Alliance provides customised and on-demand support to its members as well as certified brands in the form of sectoral information sharing and support with sales.

The Alliance participates in the main international trade shows for textiles, fashion, design and technical end uses throughout the year: Première Vision (France), Milano Unica and Filo (Italy), Sustainable Angle (UK), JEC World (France) and Les Rendez-Vous de la Matière (France). These events are an opportunity to launch its members' seasonal textile and technical innovations and to provide sourcing support for users and trend-setters.

The Alliance also organises its own professional events for members and partners. The World Linen Forum, a biannual event, brings together all players involved in the European Flax-Linen and Hemp economy at the global level (Europe, China, India, Japan). Created in 2011, **Linen Day is a day of immersion and exchange to celebrate the virtuous, innovative and creative properties of European Flax.** Its many inspiring qualities help make it THE material of the future, in line with the modern consumer's societal and environmental values. Linen Day Paris is a new event with two goals: leveraging changes already underway and accelerating the sustainable transition in fashion and lifestyle.

The Alliance regularly organises **events at the Linen Dream Lab Paris.** The Parisian Showroom, reserved for professionals, is entirely dedicated to creativity and all kinds of textile and technical innovations. A digital version of the Linen Dream Lab, which provides invaluable support with sourcing (materials, yarn and fabric library), is available at allianceflaxlinenhemp.eu.



Every year, the Alliance offers **marketing, certification and CSR support** to over 40 international fashion and lifestyle brands that use Linen in their collections.

Training sessions are also available to brands using Flax-Linen in their products. Intended for managers and sales staff, they can be used by brands independently or turned into a dedicated session conducted by a representative of the Alliance depending on the scope and needs of the company. University-level training sessions are also available.

The Innovation Book provides members and brands with biannual (spring/summer and autumn/winter) updates on creative innovations in Flax-Linen.

Days in Flax Country are a chance for brands, consultants, journalists and influencers to meet the women and men who grow and process Flax in France, Belgium and the Netherlands. This event gives Flax one voice which it can use to engage with French and international opinion.



Flax seed packets



Training sessions for brands



Days in Flax Country



Innovation Book A/W 24-25

5

THE 10 STAGES OF FLAX PROCESSING

From field to fibre and fabric

Grown every six to seven years as part of a crop rotation cycle, requiring little nitrogen, the cultivation of Flax promotes biological activity in the soil and improves the quality of subsequent crops by 20-30% (wheat, potatoes, rapeseed, etc).

1

Sowing

Sowing takes place in March or April, depending on the region. Seeds are planted at a depth of 1 to 2cm, and Flax plants reach maturity after 100 days. There are 80 to 100 leaves on the stalk of each plant.



2

Blooming

Flax flowers in June. The plant reaches a height of about 100cm. Flax flowers only bloom for a few hours: they open in the morning and lose their petals at midday.



3

Pulling

Pulling starts in July, when the stalks have lost their leaves along a third of their height from the soil. The Flax is pulled rather than cut to preserve the entire length of the stalks. These are then placed on the ground in swaths (one-meter-wide rows of Flax). After pulling, the long roots remain in the soil and serve as fertiliser, making Flax the ideal first crop in a rotation cycle.



4

Retting

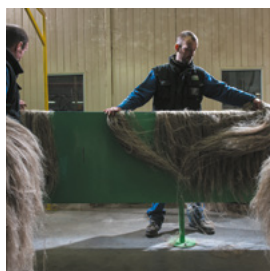
Retting is the first 100% natural phase of transformation of the plant into fibre. Precipitation, morning dew and the sun help microorganisms in the soil breakdown the pectose which binds the textile fibres to the woody part of the stem. The retting phase lasts from July to September. To promote even retting, the Flax is turned over at the halfway mark. At the end of this stage, Flax is collected into bales.



5

Scutching

Flax fibres are contained in the outer envelope of the stem. To exploit them, they must be extracted and separated from the wood in the stalk (shives). Scutching is a mechanical process which can be performed anytime during the year. The entire plant is valued, nothing is lost: all fibres, long and short, and all derivatives (seeds and shives) are used, for example as animal bedding.



6

Hackling

This operation is performed more and more frequently by scutchers. The fibre is laid out in parallel strands, calibrated and stretched into soft and glossy ribbons.



7

Preparing

During this stage, the ribbons of hackled Flax from different batches of fibres, grown on different plots, in different regions, and during different years, are blended together: this is comparable to the methods used to produce champagne and cognac. The properties of each batch are combined to create a homogeneous thread that is consistent over time. Quality standards that may lead to each strand containing Flax from up to 32 different batches!



8

Spinning

Spinning transforms strands of Flax into thread by twisting them together. The technique used depends on the type of yarn desired:

- "Wet" spinning, which involves immersing the Flax in water heated to 60°C, improves the gliding of the fibres and works well for yarns used in clothing or household Linen.
- "Dry" spinning creates more rustic and thicker yarns for use in upholstery, rope making, etc.

A variety of standards allows for a wide range of yarn, sorted by metric count (Nm). It is defined as the number of kilometres of yarn per kilogram. The higher the number, the finer the yarn on a scale from Nm1 to Nm60, sometimes even reaching Nm100.



9

Weaving

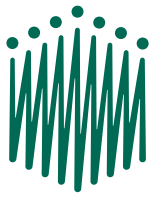
Weaving consists of interweaving warp (lengthwise) and weft (width wise) threads to create a fabric. Different weaving techniques and patterns lead to different fabrics in terms of appearance and texture. A variety of weaving methods, adapted for different thicknesses and effects, have given rise to creative permutations of fabric used in clothing, household Linens and upholstery.



OR 10
Knitting

Knitting gives Flax flexibility, elasticity and crease-resistance. Jersey fabric is made on circular knitting machines, and then cut and sewn for use in T-shirts, tops, sweatshirts, etc. Knitwear is made on flat knitting machines that can create pieces that are shaped, ready to assemble, or in 3D without sewing.





Alliance for European Flax-Linen & Hemp

About us

The Alliance for European Flax-Linen & Hemp is the only European agro-industrial organisation that serves as a global reference and brings together all players in the European Flax-Linen and Hemp value chain.

A platform for reflection, market analysis, dialogue, and strategic orientation, the Alliance for European Flax-Linen & Hemp presides over an industry of excellence in a globalised context. It encourages dialogue with national and European public authorities.

The Alliance for European Flax-Linen & Hemp creates an environment favorable to competitiveness among businesses as part of its three-fold mission of informing members, brands, and consumers, supporting the European ecosystem and European expertise, and promoting European Flax-Linen and Hemp as the sustainable premium fibres of choice around the world.

It connects 10,000 businesses in 16 European countries and bases its work on the values of solidarity, innovation, scientific validation, and respect for people and planet.

It promotes, initiates and organises strategic reflections and research on its fibres in order to be able to provide all of its interlocutors with evidence-based economic data, environmental information, and reliable scientific evidence.

The Alliance for European Flax-Linen & Hemp strives to increase the international visibility of its fibres, whose technical and environmental properties inspire global creation and help create new opportunities for industrial innovation. It guarantees the traceability of Flax fibre thanks to the EUROPEAN FLAX™ and MASTERS OF LINEN™ certifications.

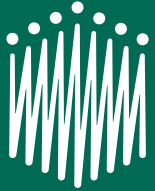
The Alliance for European Flax-Linen & Hemp is the new name of CELC, an association founded in 1951. Western Europe is the number one Flax-producing region in the world (France, Belgium and the Netherlands account for 3/4 of global Flax production).

European Flax™: The guarantee of traceability for premium quality flax fibres grown in Western Europe for all end uses. A plant fibre, produced through farming that is respectful of the environment, without irrigation or GMOs.*

Masters of Linen™: the guarantee of traceability for linen made by European companies on European and Euromed 1 sites. A textile of excellence, local at all stages: from the vegetal European Flax™ fibre, to yarn and fabric.

*except in exceptional circumstances.





Alliance for European Flax-Linen & Hemp

15 rue du Louvre, 75001 Paris - France
T : +33 (0)1 42 21 06 83
communication@allianceflaxlinenhemp.eu
allianceflaxlinenhemp.eu

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