

Hemp textile and technologies in France and Poland



CDG ARABLE CROPS – COTTON, FLAX & HEMP SECTORS

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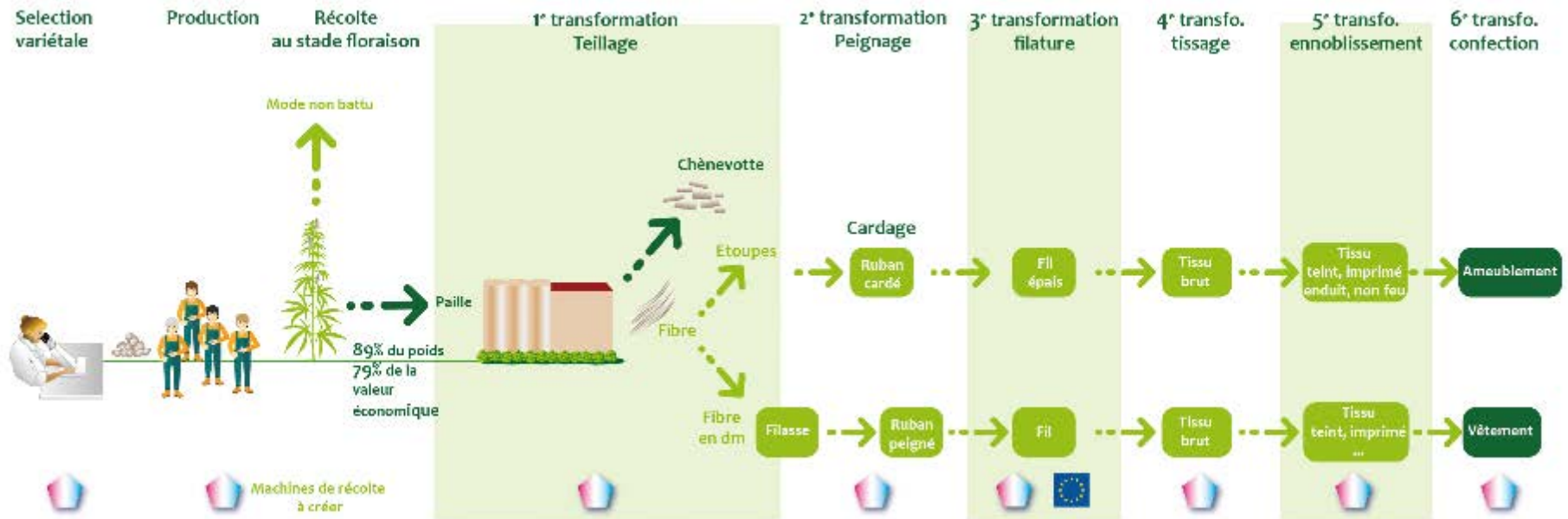
A highly expected market for consumers

3 possible technologies

- **The 100% hemp with long fibers :**
On the same principle as flax but without pesticide and entirely through a mechanical process
- **The « cottonised » with 20 to 30 % of hemp and other fibers such as cotton:**
Already developped by Levis, Ikea, Decathlon...
- **The cellulosic:**
Finalisation of the experimentation.



The 100% hemp with long fiber textile

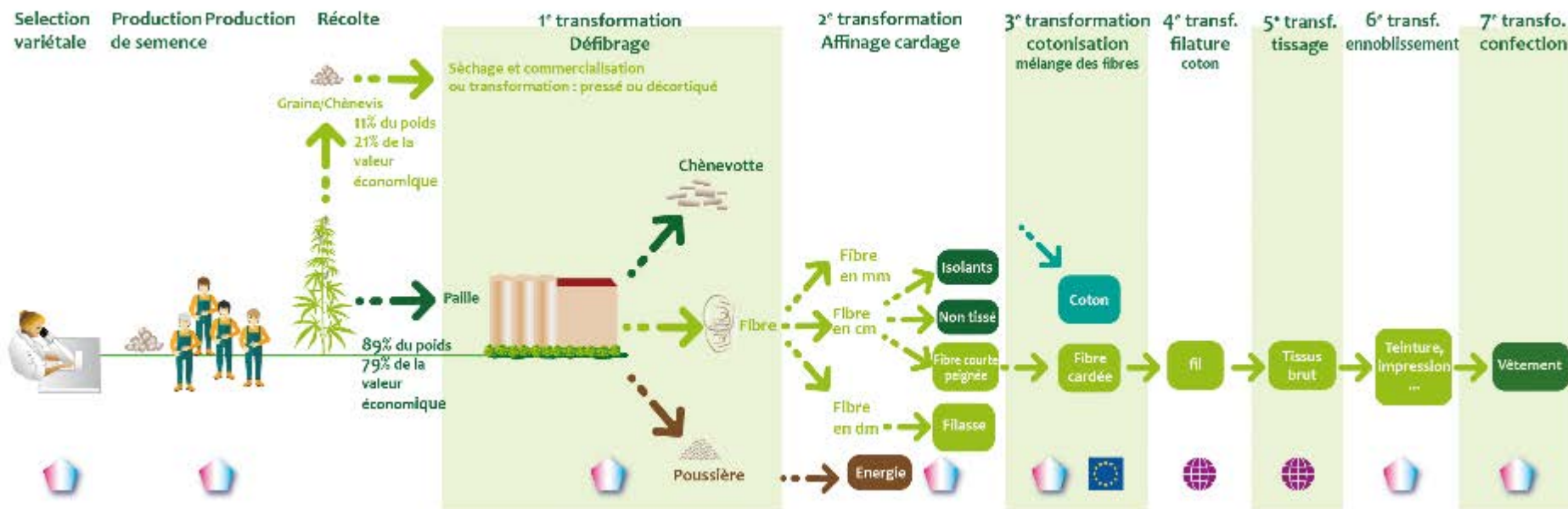


Mastering of the retting stage still complicated and harvesting machines must be developped

For the other stages, the flax tools must be adapted.



« Cottonised » hemp



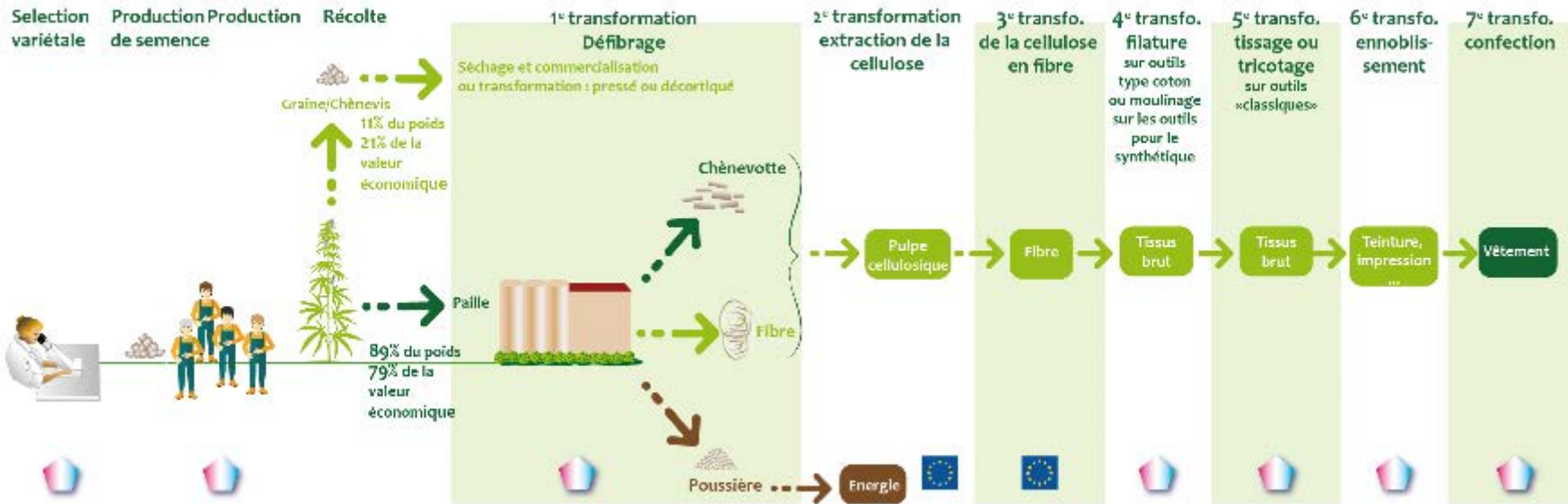
Tools and know-how are controlled

If the will is to be autonomous, spinning factories and weaving workshops will be needed.





The cellulosic



The plant is used as a whole and properly processed to obtain a thin fibre.

Next steps :

2022 : Process optimization and pilot productions (50-100 kg)

2023 : Industrial feasibility study for a production site on cellulose extraction and fibers production

2024 : Implementation of a demonstrator (France)

2025 : Beginning of industrialisation

We could be ready for the 2024 Olympic Games with pilot productions!



Development of textile hemp in Poland

Until 2019 – hemp fibres were used only for technical purposes :
insulation, automotive, packing ropes, disinfection nonwoven mats.



Potential of textile hemp in Poland

In Poland exist:

Hemp fibre producers:

- 2 producers of long hemp fibres
- 3 producers of short hemp fibres

Spinning mills

- 1 wet spinning mill
- 5 dry spinning mills

2019 – First hemp plantation long fibers

Polish variety of Bialobrzeskie – INF&MP

100% hemp yarn – 83 tex (12 Nm)
Nature Bleached



Source - research conducted at Institute of Natural Fibers and Medicinal Plants in Poland led by prof. Malgorzata Zimniewska

Year 2020

- Development of planting and harvesting hemp for long fibres,
- Development of machines for hemp straw cutting and turning during retting.
- First plantation for short fibres production – for dry spinning - obtained hemp yarn Nm 4,2 – for upholstery fabrics.

Plans for year 2021

1. Development long hemp fibres production – semi commercial scale -100 ha.

- Machines for harvesting
- Scutchning lines

2. Development of short fibres production – 120 ha

- Development of decortication machines – suitable for hemp tow production
- Development of pre-carding technology

Thank you for your attention!



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