

European Industrial Hemp Association

1° International Conference – Huerth, Oct. 23-24th 2003

*Controlled retting of bast fibres on industrial scale :
An italian challenge for textiles*



Why hemp ?



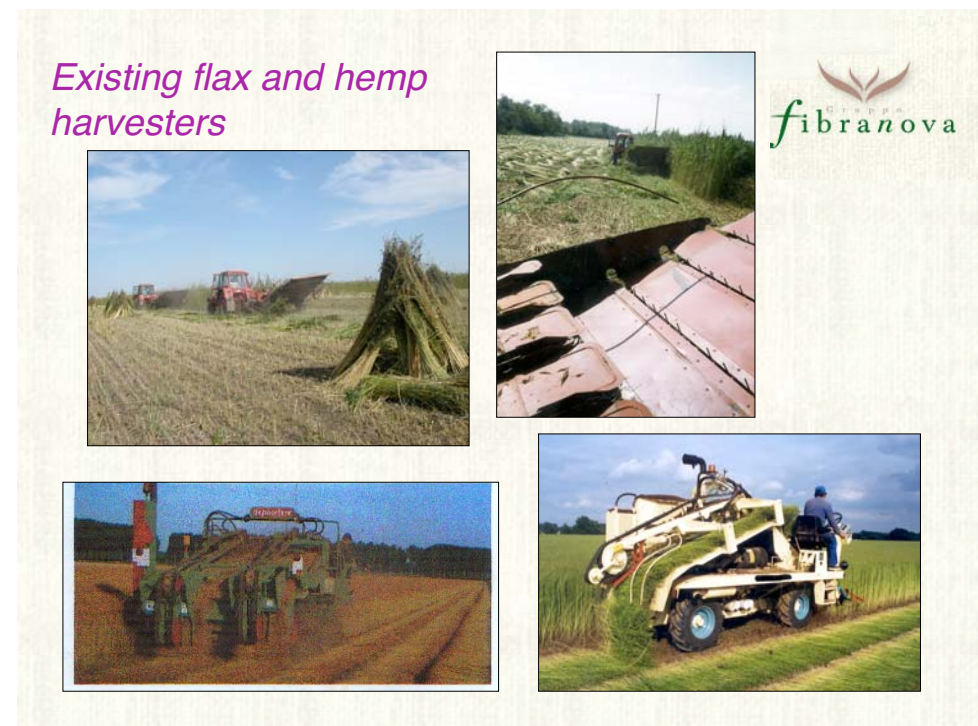
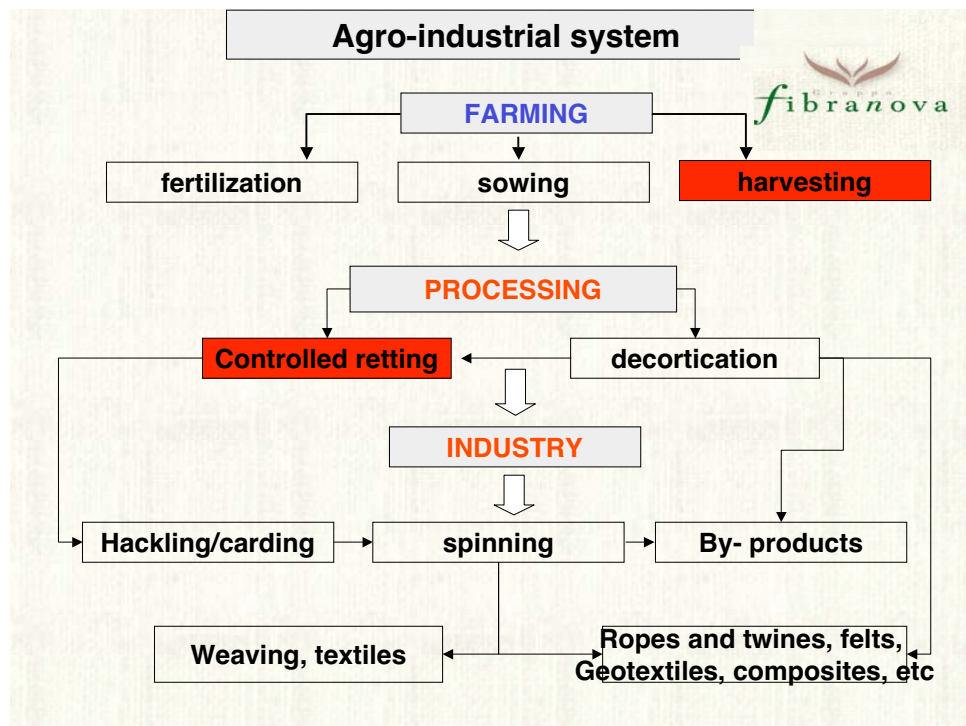
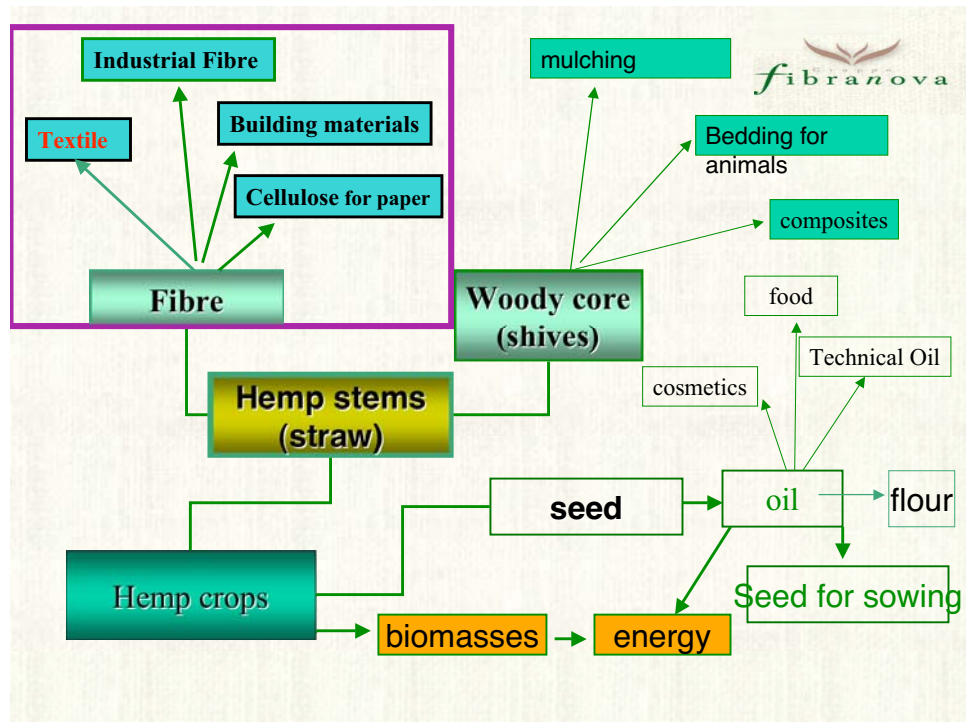
Somebody says that thousands of products can be obtained by hemp, that it is a wonder-crop, environmentally safe, that.....



From the seed to final products



There are many different ways to process hemp straw



Harvesting key points

- *Hemp stalks are mowed and kept parallel*
- *Hemp stalks are cut into two parts, 1.0 mt long*
- *Two rows of half stalks are layed parallel on the field*
- *The row is turned to dry and turn pale yellow*
- *The row is round-baled like flax*



Testing modified harvesting machines



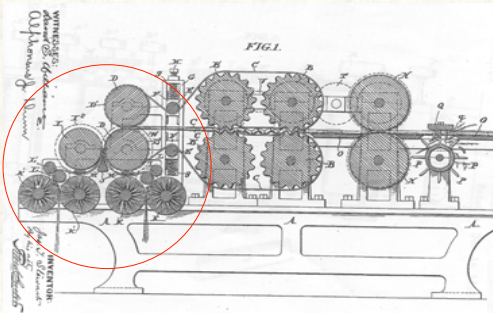
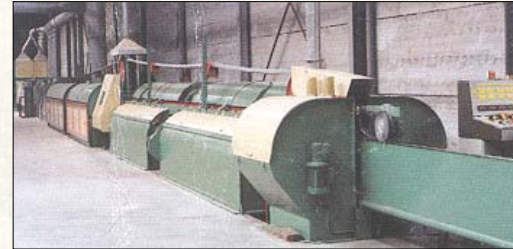
Turning and round-baling half cut hemp stalks



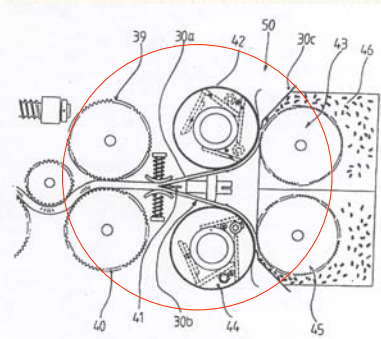
Once upon a time : scutching



Modern scutching facilities



US pat. Stewart 1879



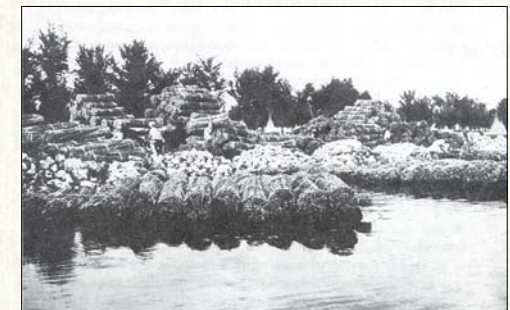
Aus. Pat. Mierisch 1999

scutching trials with hemp



Vasche di acqua per la macerazione della canapa

Once upon a time: Retting ponds



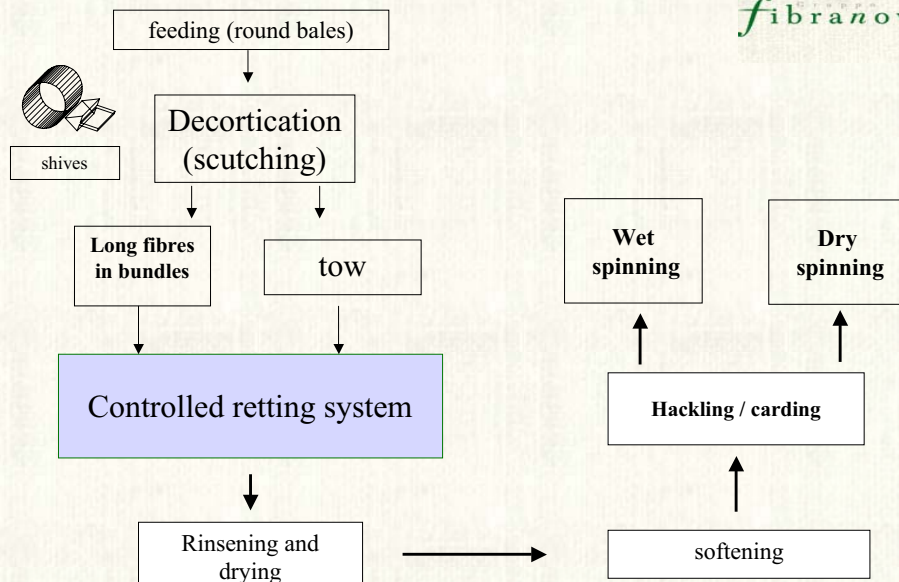
Controlled microbiological retting systems

- Enzymatic process
- Anaerobic inoculation
- Aerobic inoculation

Processing key targets

- *Hemp stalks are scutched “green”*
- *Long fibre and tow are sent to the retting facility*
- *fibre is retted in a controlled microbiological system*
- *fibre is washed, dried and softened*
- *Long and short fibre are delivered to the spinning facility*

Processing system



Microbiological retting trials In Hungary





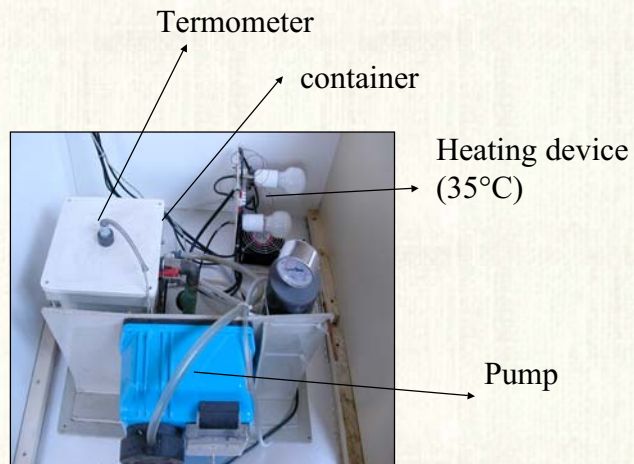
HEMP IN TUSCANY



Hakling /Carding



Testing device



Choosing fibre samples

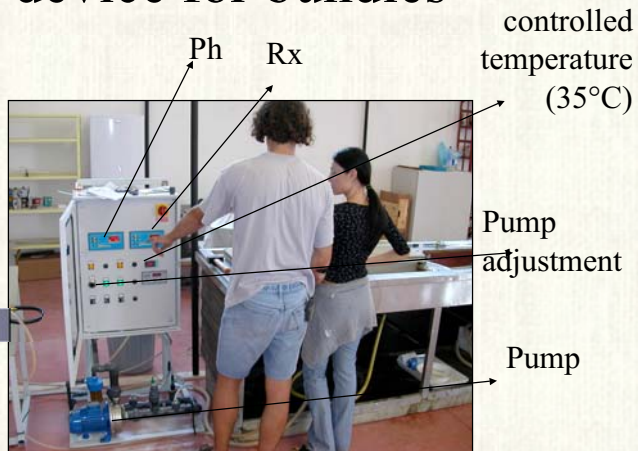


Short fibre



Fibra bundles

Retting device for bundles



INOCULATION

END OF RETTING PROCESS: 3 DAYS

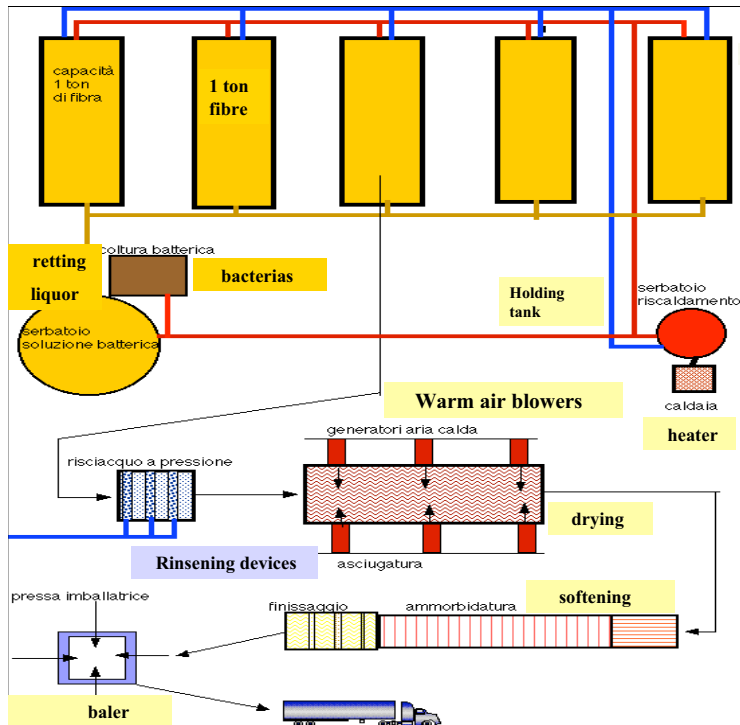


Fibra corta macerata



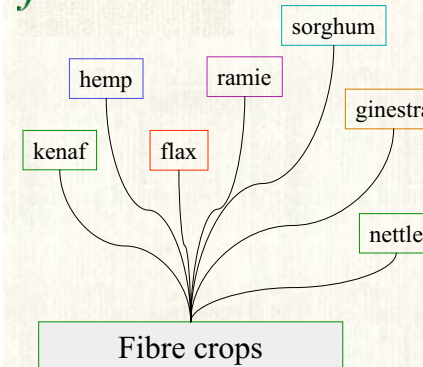
Prelievo campioni liquido macerazione

Mannelle di fibra macerata



Layout of the industrial retting system

TUSCANY



Scutching facility

Retting facility

