



HempFlax' mission is to serve mankind and the environment by providing affordable, modern, natural hemp products for a sustainable future.



HempFlax Holland
Hendrik Westerstraat 20-22
Postbox 142
NL-9665 ZJ Oude Pekela
The Netherlands

HempFlax Deutschland GmbH
Auf dem Brink 16
27801 Neerstedt
HRB AG Oldenburg Nr: 204206
Geschäftsführer E. Dronkers, L.M. Reinders
Ust-Ident: DE813945666

From Pioneer to Professional

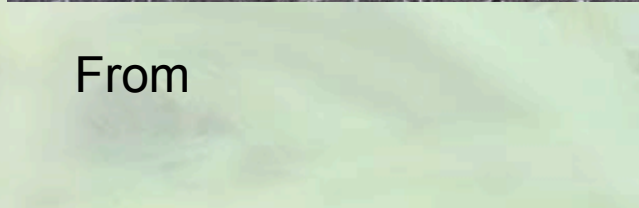




HempFlax Group



- HempFlax started in 1993
- Pioneer in growing and processing
- 50 years in lack of technology developed over 10 years time
- Development of :
 - Harvest technology
 - Decortication technology
 - Markets
- “in house” development.



Pioneering in harvesting



From

Around 1900



To



Pioneering
in
harvesting



the nineties



till



Pioneering
in
harvesting



Now!



From



Pioneering in Processing



Around 1900



From



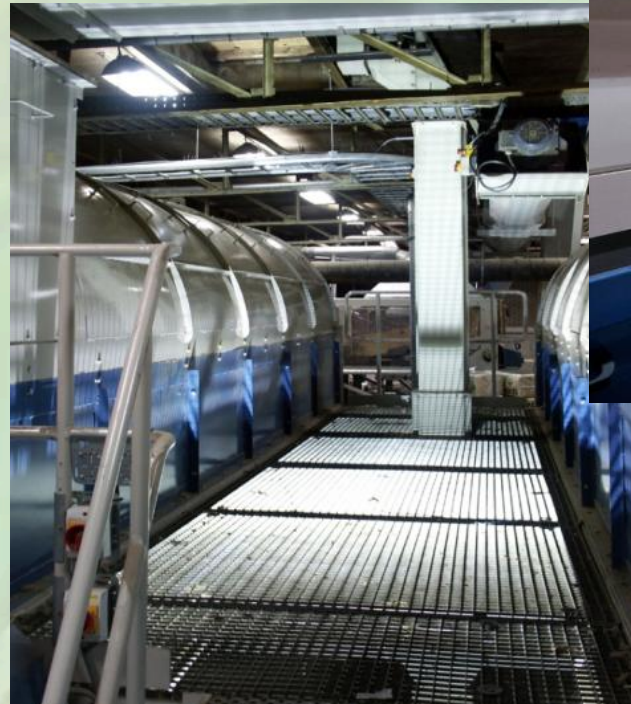
Pioneering in Processing



Early nineties



Till



Pioneering in Processing



Now



Time line

1993 start
up
HempFlax

1994 first
growing

1997 patent
mowing
technology

2003 take
over
Hempron
and
Vernaro

2004-2
008
refocus

2008 start
professionalization
and sale of
production line PL2

2009 take
over Nafgo
GmbH,
construction
new
production
line

2010
more
then
1000
ha

2011 ISO
9001
Certified

2012 ?
????





Harvest

- Cutting in early august
- Special harvesters developed by HempFlax
- Cutting lenght 60 cm





Harvest

- Turning after one week
- Depending on the weather second turning
- Retting degree and moisture content control



Harvest



- Square bales pressing
- Advantages:
 - Handling
 - Logistics: 11-14 ton/truck
 - Quality
- Modified technology





Harvest

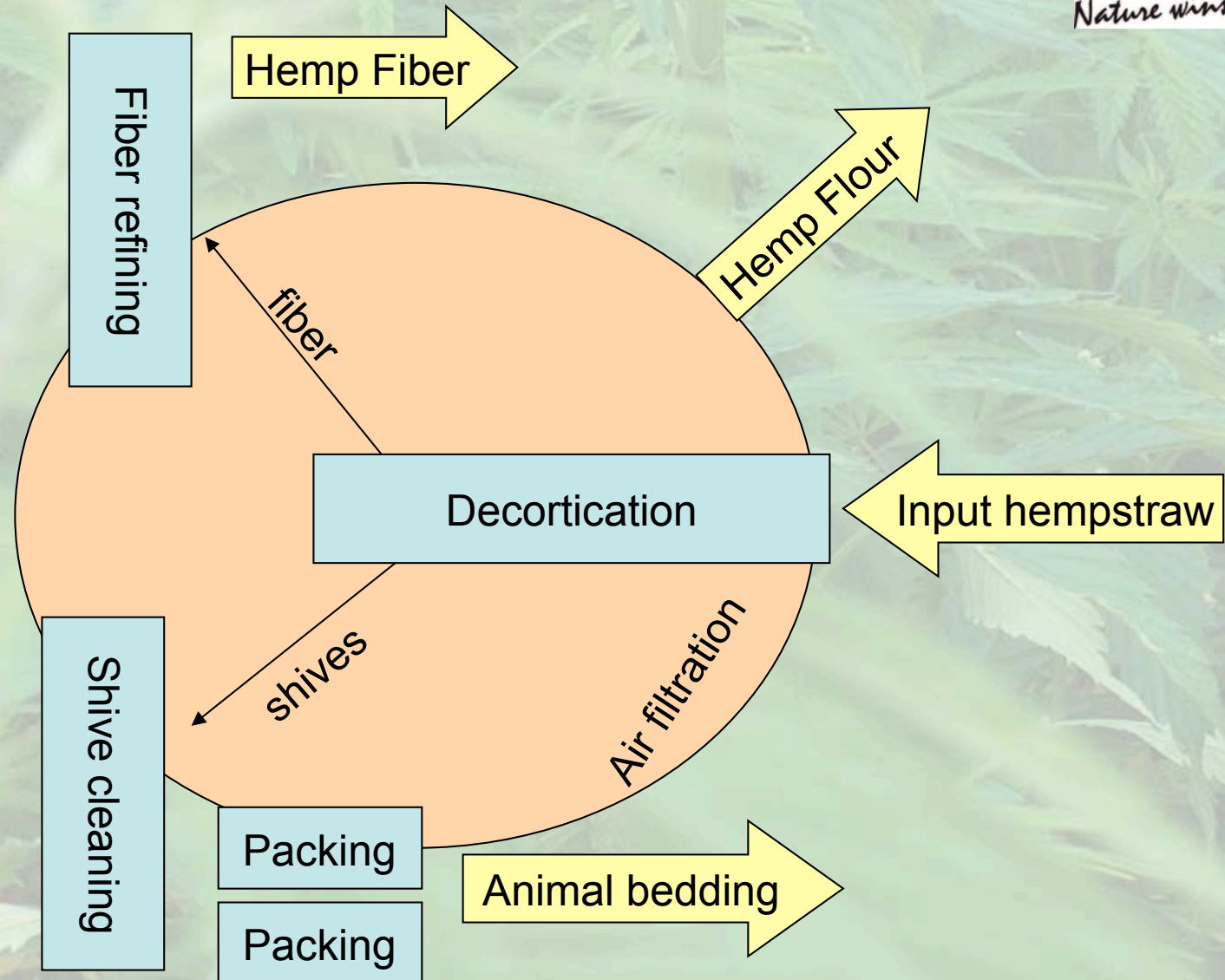


- Logistics
- Storage: 70.000 m²





Decortication



Decortication

- Input: 2-3 t/hour
- Output: 700-800 kg fibre / hour
- Power requirements: 600 KW
- Fibre quality:
 - Technical grade: max 2% contamination
 - Textile grade: aprox. 0% contamination
- Highly automated
- 2 employees a shift needed





HempFlax Netherlands

- 2010:
 - 1.000 ha Hemp growing
 - 2.000 ton hemp fibre produced
 - 600 ton Flax fibre produced
 - 350 ton other bast fibre production
 - 4.200 ton Hemp shives produced
 - 10 Employees
- Maximum capacity 24/7 production:
 - 3.800 ton bast fibre / year
 - 9.120 ton hemp shives / year





HempFlax Germany



Non wovens

- 2 employees
- Carding crosslapping line
- 1500 kg/shift

Confection

- 2 Employees
 - Beam cutting press 150t
 - Table 1050 x 1600
 - 4 Seconds per cut
-
- 24/7 operation possible
 - 4 employees



Group advantage



Primary processing

- growing
- Harvesting/retting
- fibre decortication

Institute/FuE:

- Product development
- Quality control
- Certification

HempFlax advantage

Non woven production

- product development
- production
- commercialisation

Industry:

- Product development
- Product requirements
- further processing
- commercialisation



Products

- Fibres
 - Technical grade <2% impurities
 - Textile grade < 0,5% impurities
 - Fibre length 40-100 mm
- Shives
 - Horse bedding
 - Small animal bedding
 - Construction/gardening
- Needle punch Non wovens
 - Composites
 - Growing medium
 - Geotextiles
 - Mattress industry
- Thermo bonded non wovens
 - Construction



Business development

“the one stop shop”



- Delivery of
 - Technology: new and used equipment
 - Know how of growing/processing/ products
- Conduct a feasibility study
- Assist in writing a business plan
- Assist/cooperate in market development.





Questions?



With kind regards,

Mark Reinders MSc., vice president