Welcome to the
Fourth International Conference of the European Industrial Hemp Association (EIHA)

Welcome

85 participants from 23 different countries
Overview on the EIHA & the European Natural Fibre Industry:
Cultivation, processing, and product lines

Dipl.-Phys. Michael Karus
Managing director of the European Industrial Hemp Association (EIHA) and of the nova-Institut (Germany)
General data on European Flax and Hemp Industry
Flax Cultivation Area in the EU (ha)

Preliminary data for 2006
Preliminary data for 2006
Flax and hemp cultivation in Germany 1985-2006
(with EU processing aid)
Source: German Ministry of Agriculture 1985-2006
European Policies - subsidies

Cultivation area subsidy („Grand Culture“) 300 - 350 EUR/ha

Fibre processing subsidy for flax long fibre 160 EUR/t (until ??)

Fibre processing subsidy for flax short fibre (tow) & hemp fibre 90 EUR/t (2007/08)

Germany
Market introduction program for renewable raw material insulation 25 - 35 EUR pro m³
Traditional Long Fibre Processing

Flax straw

Shives

Long fibre

up to 90% of the value

short fibre processing aid 90 €/t

Total Fibre Line Processing

Flax or hemp straw

fair competition?

Short fibre (tow)

50% of the value

50% of the value

Short fibre

Shives

long fibre processing aid 160 €/t

European Industrial Hemp Association
### Sales realised for each of the four outlets of flax and hemp fibres in 2003 (ANDI, Ernst & Young 2005)

<table>
<thead>
<tr>
<th>Natural Fibre / Outlet</th>
<th>Volume (t)</th>
<th>Price (€/t)</th>
<th>Sales (Mio. €)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flax</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textiles long fibres</td>
<td>115,321</td>
<td>1,593</td>
<td>183.7</td>
<td>88.7</td>
</tr>
<tr>
<td>Textiles short fibres</td>
<td>29,500</td>
<td>345</td>
<td>10.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Special &amp; technical paper</td>
<td>25,000</td>
<td>170</td>
<td>4.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Non-wovens (insulation ...)</td>
<td>1,850</td>
<td>400</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Composites</td>
<td>17,000</td>
<td>500</td>
<td>8.5</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Flax total</strong></td>
<td>188,671</td>
<td>-</td>
<td>207.2</td>
<td>100</td>
</tr>
<tr>
<td><strong>Hemp</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special &amp; technical paper</td>
<td>20,706</td>
<td>371</td>
<td>7.7</td>
<td>82.8</td>
</tr>
<tr>
<td>Non-wovens (insulation ...)</td>
<td>824</td>
<td>500</td>
<td>0.4</td>
<td>4.3</td>
</tr>
<tr>
<td>Composites</td>
<td>2,470</td>
<td>500</td>
<td>1.2</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>Hemp total</strong></td>
<td>24,000</td>
<td>-</td>
<td>9.3</td>
<td>100</td>
</tr>
</tbody>
</table>
Overview on the European Industrial Hemp Association (EIHA)
The European Industrial Hemp Association (EIHA) was founded in -> Wolfsburg on 14.09.2000 at the international conference BIORESOURCE HEMP 2000 (informal association)

-> Hürth on 23.11.2005 as an official association (Country Court Brühl, VR 1397)

EIHA members - founding members 2005

- NAFGO GmbH (D) since 2000 yes
- BaFa GmbH (D) since 2000 yes
- FIBRANOVA (I) since 2003 yes
- Hemcore Ltd (UK) since 2000 yes
- HempFlax B.V. (NL) since 2000 yes
- HempFlax Deutschland GmbH (D) since 2004 yes
- LCDA (F) 2000 - 2004 no
- HAV NafiTech GmbH & Co. KG (D) since 2005 insolvent
- Yunnan Industries (China) since 2004 yes

Managing director:
Michael Karus (D), nova-Institut
Associate members

- Alberta Research Council (Canada)
- Celesa (Spain)
- Chanvriere du Belon (France)
- Clearacre Ltd. (UK)
- Deutscher Naturfaserverband e.V. (Germany)
- Faserinstitut Bremen (FIBRE) (Germany)
- Francois Desanlis (France)
- GreenGran B.V. (The Netherlands)
- Hempro International (Germany)
- IHA International Hemp Association (The Netherlands)
- Irish Hemp Ltd. (R. of Ireland)

- Leson & Associates (USA)
- Marcel Toonen (The Netherlands)
- Nirecon Limited (UK)
- nova-Institut GmbH (Germany)
- Stepidavise (France)
- Temafa Maschinenfabrik GmbH (Germany)
- Valbiom (Belgium)
- Valentin Holzwerkstoffe GmbH & Co. KG (Germany)
- Van Dommele Engineering NV (Belgium)
- Why Not Hemp?, n.f. (Slovakia)
The European Industrial Hemp Association (EIHA)


- President: John Hobson, Hemcore Ltd. (UK)
- First Deputy Chair: Cesare Tofani, Fibranova (Italy)
- Second Deputy Chair: Bernd Frank, BaFa GmbH (Germany)


- nova-Institut GmbH, Michael Karus

Wolfsburg, 2000
Objectives of the EIHA are:

• To support the cultivation, processing and use of industrial hemp – i.e. hemp strains that are allowed to be cultivated in accordance with EU law and the raw materials of which are processed industrially – and its products.
• To collect important information on industrial hemp and industrial hemp policy and to publish data about the European Natural Fibres Industry and to establish market figures and trends.
• To give industrial partners easy access to the European Hemp Industry via the EIHA homepage.
• To establish a regular exchange of information between its members and to co-operate with other national, European and international organisations and associations.
• To represent the industry to EU institutions and national ministries.
• To support communication between the national ministries concerning EU policy.
• To provide EU institutions, national ministries, the media and the public with current and reliable information on industrial hemp, to develop and submit recommendations for changes to present laws, regulations, standards and guidelines on the EU and national levels.
Membership fee

• Regular members
  • 1.000 € per year (= 10 votes)
  • and additional 100 € for every 1.000 ha (+ 1 vote)

• Associate members
  • 200 € per year (= 1 vote)

You can join EIHA now!
Application form available!
EIHA membership advantages

• Support the development of the European Hemp Industry (influence on authorities, „Voice in Brussel“)
• Establish business connections, opportunity for networking
• All questions about hemp business are transferred only to EIHA members
• Reduced fee (50%) for EIHA conference; free access to the EIHA database: insider and market information & all presentations from the EIHA conferences
• Joining the yearly General Meeting: Elect the Board of Directors and the Executive Committee / Managing Director
• Introduce your ideas to EIHA

You can join EIHA now!
Application form available!
EIHA activities in 2007

- Increase membership - Target: 50 more associate members & 5 regular members
- End of Life Vehicle Directive
- Visit in Brussel
- Cooperation with FAO - Year of Natural Fibres 2009
- EIHA leaflet & CD-ROM
- Common marketing for EIHA - Fibres, shives & seeds

You can join EIHA now!
Application form available!
Overview on the European Hemp Industry: Cultivation, processing and products
Cultivation and processing data - EIHA statistics

Average yield of dry hemp stalks (2001 - 2005): 5.3 - 6.2 t/ha

- 55% cleaned hurds
- 28% fibres
- 21% technical fibres
- 4% short fibres
- 3% very short fibres
- 11% dust from filters
- 2% waste fibres
- 2% stones, wood, metal
- 0.1% rope
- 15.1% others
- 2% material lost / lost of water content
Basic data
(EIHA members & LCDA)

- Cultivation area for hemp
- Fibre production in tons (from the current harvest and previous years)
- Hurd production in tons (from the current harvest and previous years)
- Seed production in tons (from the current harvest and previous years)

Year:
- 2001
- 2002
- 2003
- 2004
- 2005

ha & tons:
- 0
- 5,000
- 10,000
- 15,000
- 20,000
- 25,000
- 30,000
- 35,000
Essential fibre product lines in tons (EIHA members & LCDA)

- Pulp & Paper
- Building & Insulation
- Automotive & Composites
- Others
Essential hurd product lines in tons
(EIHA members & LCDA)

- Animal bedding
- Horse bedding
- Small animals (incl. birds & poultry)
- Building & Insulation
- Others

Year:
- 2001
- 2002
- 2003
- 2004
- 2005

Tons:
- 35,000
- 30,000
- 25,000
- 20,000
- 15,000
- 10,000
- 5,000
- 0
Overview on the use of natural fibres in the automotive production in Germany
Applications

Mercedes-Benz A Class

New Mercedes-Benz S Class
Use of Natural Fibres* for Composites in the German Automotive Industry 1999-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Exotic Fibres</th>
<th>Hemp</th>
<th>Flax</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>9.600</td>
<td>1.548</td>
<td>372</td>
<td>7.680</td>
</tr>
<tr>
<td>2001</td>
<td>15.100</td>
<td>2.618</td>
<td>913</td>
<td>11.569</td>
</tr>
<tr>
<td>2002</td>
<td>17.200</td>
<td>2.895</td>
<td>2.416</td>
<td>11.890</td>
</tr>
<tr>
<td>2003</td>
<td>18.000</td>
<td>4.995</td>
<td>2.012</td>
<td>10.993</td>
</tr>
<tr>
<td>2004</td>
<td>18.500</td>
<td>5.000</td>
<td>1.500</td>
<td>12.000</td>
</tr>
<tr>
<td>2005</td>
<td>19.000</td>
<td>5.000</td>
<td>1.800</td>
<td>12.200</td>
</tr>
</tbody>
</table>

* without wood and cotton
Use of Natural Fibres for Composites in the German Automotive Industry 2005
Total: 19,000 t

- Flax 64.2%
- Hemp 9.5%
- Jute/Kenaf 11.2%
- Sisal 7.3%
- Other 7.9%
Shares of Different Processing Technologies of NF*-Composites in the German Automotive Industry in 2005

- Thermoset press-moulding: 35%
- Injection moulding**: 2%
- Press flow-moulding**: 2%
- Thermoplastic press-moulding: 61%

* Without wood and cotton
** Straight thermoplastic processing technology
Natural Fibres* Reinforced Composites in Different Processing Technologies of Composites in the German Automotive Industry in 2005

- Natural Fibres* Thermoplastic: 46.2%
- Natural Fibres* Thermoset: 55.2%
- Wood Fibres Thermoset: 84.7%

* without wood and cotton
The European Industrial Hemp Association (EIHA)

We wish You an interesting and exciting conference!