

The European Industrial Hemp Association (EIHA)

Welcome to the 11th Conference

21 May 2014

**Hotel am Rhein, Wesseling,
Germany.**

John Hobson
President EIHA



Present hemp industry

Total Hemp cultivation area
in the EU approx. **15.000 ha**
in 2014.

The European Industrial
Hemp Association (EIHA)
has 9 regular members
(hemp processors) and
80 associate members
from 31 countries (2014).

Hemp processors



EIHA members



Non-EIHA members



The European Industrial Hemp Association (EIHA) – Board of Directors, founded in 2005

John Hobson, since 2005

President, Plant Fibre Technology Ltd. (UK)



Bernd Frank, since 2005

First Deputy Chair, BaFa/bave GmbH (Germany)



Olivier Joreau, since 2011

Second Deputy Chair, CAVAC BIOMATERIAUX (France)



Mark Reinders, since Dec. 2012

HempFlax BV (The Netherlands)



Sylvestre Bertucelli, since Dec. 2012

InterChanvre (France)



Daniel Kruse, since Nov. 2013

Hempro International GmbH & Co. KG (Germany)



Additional regular members of EIHA in May 2014

Dun Agro B.V. (The Netherlands)

Albert Dun



HANNAH BIZ d.o.o (Slovenia)

Dejab Rengeo



Planete Chanvre (France)

Philippe & Antoine Heusele



Assocanapa SRL (Italy)

Felice Giraudo



Hanf Farm GmbH (Germany)

Rafael Dulon



Hemp Factory GmbH (Germany)

Daniel Kruse

90 (10 regular and 80 associate) members of EIHA in May 2014

- 73 members from 23 European Countries
- 17 members from other countries like Australia, Canada, South Africa, South Korea, Ukraine, Uruguay, USA

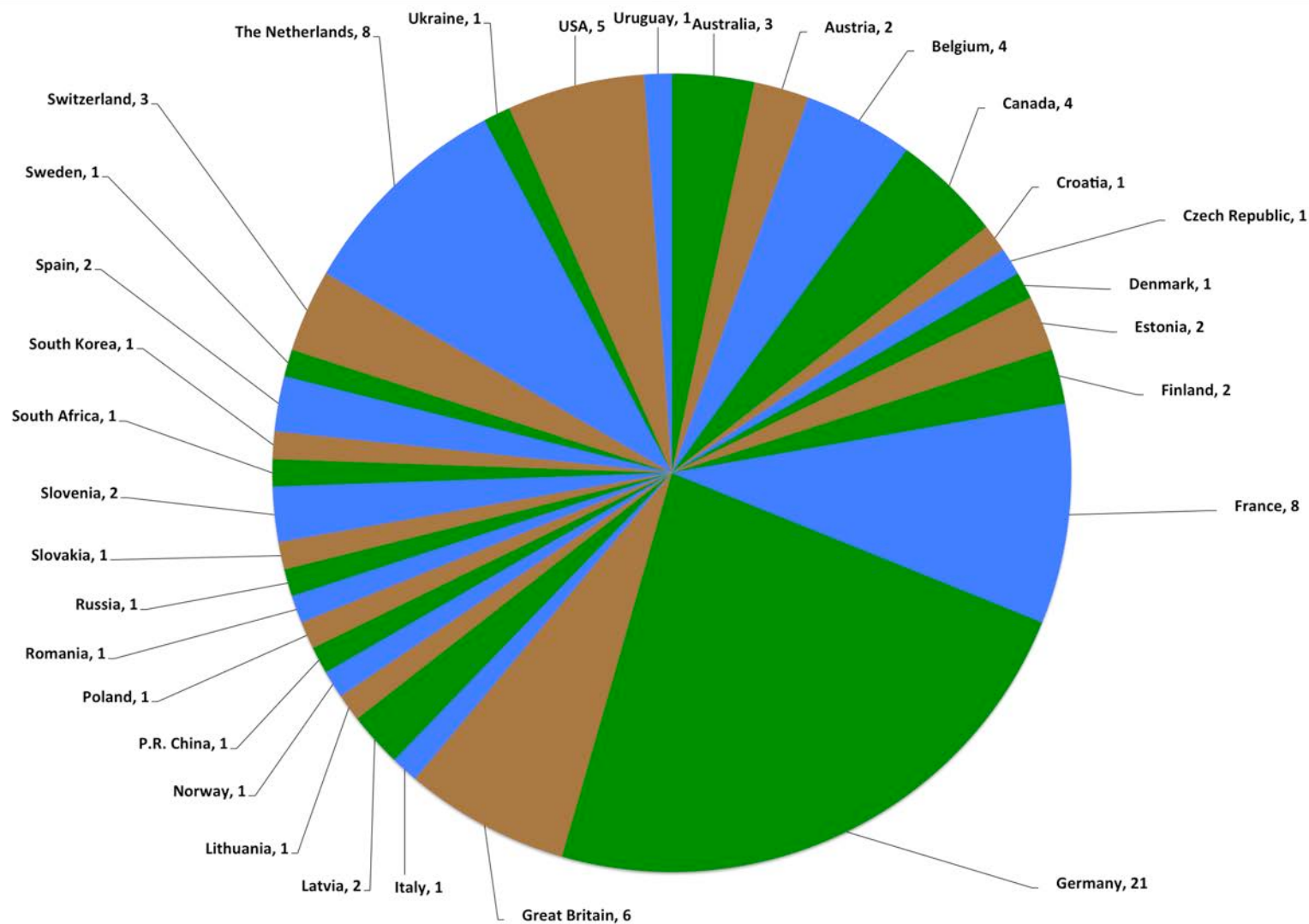
Cooperation with

- InterChanvre, France
- Hemp Industries Association, USA
- Canadian Hemp Trade Alliance, Canada
- International Hemp Building Association, Ireland

Members of the EIHA

- 2008: 57
- 2009: 68
- 2010: 65
- 2011: 82
- 2012: 81
- 2013: 85
- 2014: 90

EIHA Member – country distribution

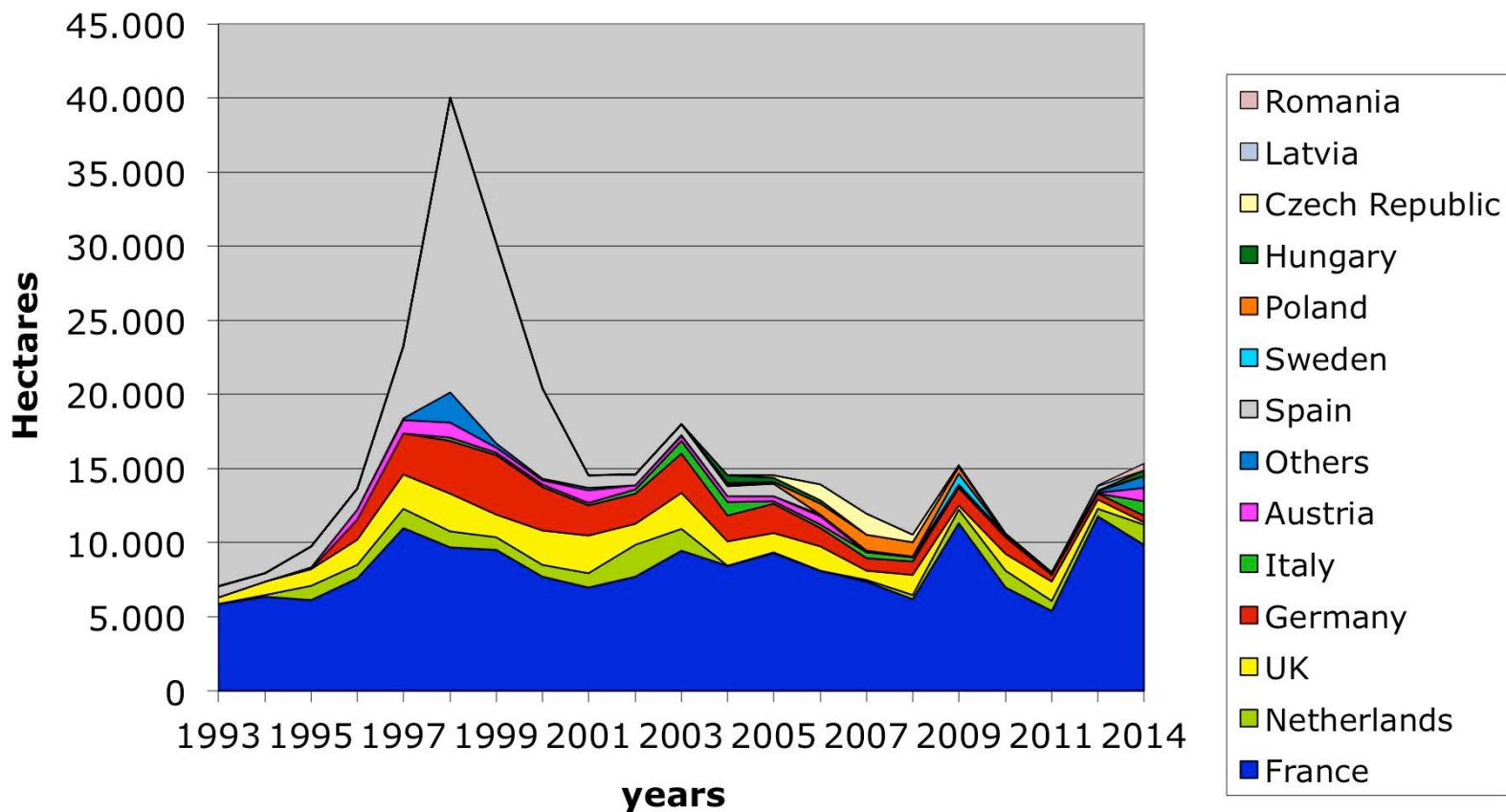


Good news ...



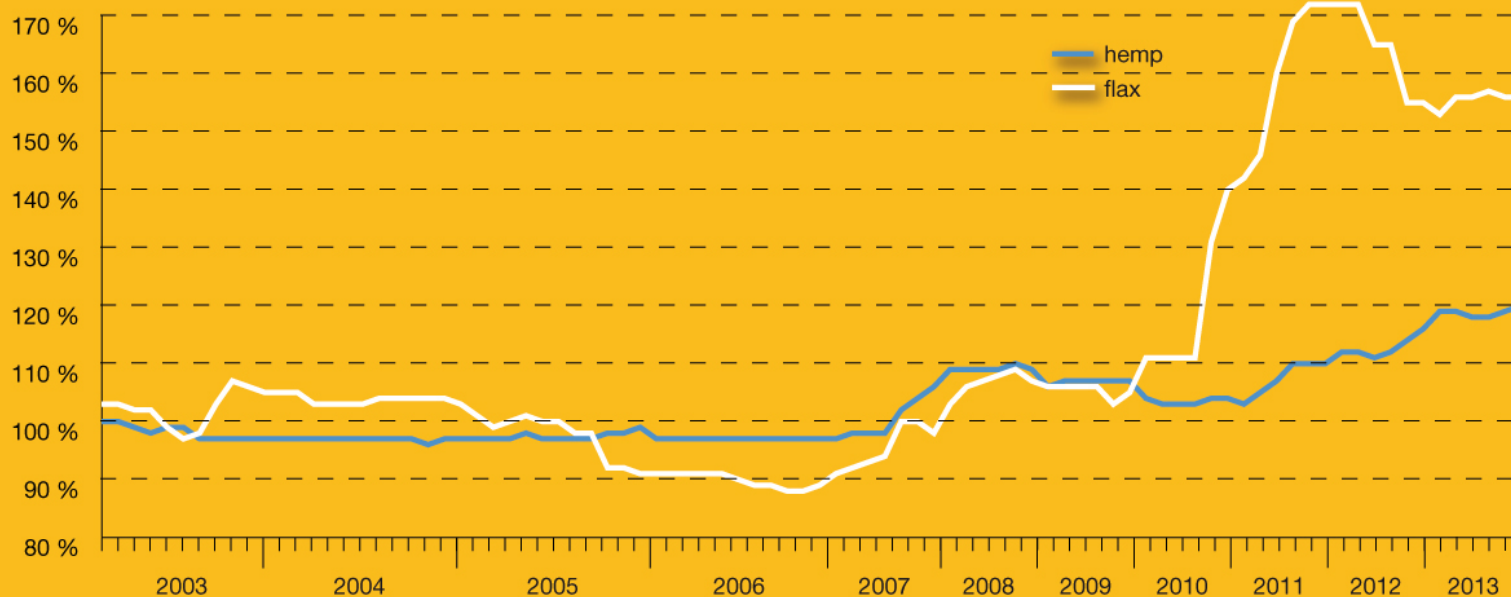
EU Hemp cultivation area is growing again! No official data for 2013 & 2014 – more countries involved

Hemp Cultivation Area in the EU (ha)
2014: ca. 15,000 ha



Price index: Hemp and flax technical short fibres

Price index: Hemp and flax technical short fibres



100 % equal the price of technical hemp short fibres in March 2003. Basis: Supply of 100 t per year.

Sources: nova-Institut GmbH on the basis of bi-monthly price reports from: Agrofibre SAS (F, since 2009), Badische Naturfaseraufbereitung BaFa GmbH (D), Hemp Technology Ltd. (UK), HempFlax B.V. (NL), Holstein Flachs GmbH (D), Linolitas (LT, until 2007-12), NAFGO GmbH (D, until 2008), Procotex SA Corporation (B, until 2005-10, since 2013-10), Sachsen-Leinen GmbH (D, since 2003-10), SANECO (F, since 2008).

Lobbying in Brussels: Structure and representatives

- **John Hobson** (Hemp Technology, UK): As a president involved in all lobbying activities.
- **Sylvestre Bertucelli** (InterChanvre, FR): Focus on CAP reform, DG Agriculture and European Parliament and Copa-Cogeca.
- **Michael Carus** (nova-Institut, DE): EIHA is part of the “Bio-based Expert Group”, DG Enterprise – high level committee to steer the Bio-based Economy. And EIHA can become a business case for the “Bio-based panel”.
- **Lara Dammer & Roland Essel** (nova-Institut, DE): EIHA is member of CEN/TC 411, Bio-based Products, Certification and Sustainability / LCA.
- **Daniel Kruse (Hempro, DE) & Sylvestre Bertucelli (InterChanvre, F)**: Food Drink Europe.

New EIHA leaflet

European Industrial Hemp

**Pulp & Paper, Insulation, Biocomposites & Construction,
Food & Feed and Pharmaceuticals**

The perfect green material – good for the environment



Pictures: Hempro (DE), Hemp Technology (UK) and nova (DE)

Hemp Seeds

- are a nutritional powerhouse
- excellent and unique fatty acid spectrum
- high protein quality

Hemp Fibre

- good mechanical properties
- the perfect reinforcement for your (bio-based) plastics
- good availability at low cost
- no competition with food production



Picture: Hemp Technology (UK)

Fibres

Picture: JRCO (UK)

<http://www.eiha.org>



High carbon capture by Hemp fibre insulation fleeces. Picture: Hock (DE)



Applications for Hemp Fibres

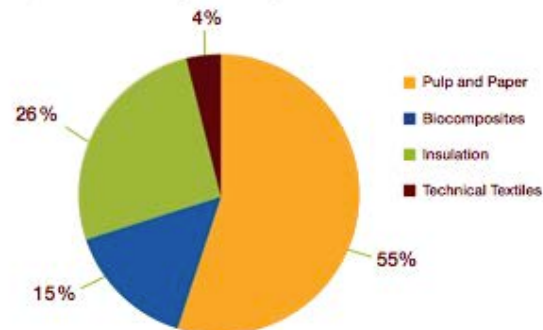
Hemp fibres have some of the best mechanical properties of all natural fibres. They are mainly used for speciality pulp & paper, insulation material and for bio-composites in automotive applications.

Before the rediscovery of industrial Hemp in Europe in the 1990s, Hemp fibres were mainly (> 95%) used for speciality pulp & paper. Nevertheless in 2014, Hemp pulp & paper with a share of 55% is still the most important market for European Hemp Fibres, supplied mainly by French producers.

Insulation material is the second most important application for Hemp fibres today. Insulation material accounts for 26% of the applications or if you take out pulp & paper nearly 60%. Together with other non-woven applications like mulch fleeces which are used in gardens and agriculture. Cress growing fleeces in some European countries are the dominant medium used for cress cultivation. And other non-wovens such as mats for farrowing pigs, the share of this applications group is 30%.

Biocomposites account for 15% of the applications, without pulp & paper 33%. The only really established biocomposite market is press (or compression) moulding in automotive interior applications with a share of 96% of all biocomposites. This corresponds to more than 3,700 tonnes of Hemp fibre or about 7,500 tonnes of biocomposites (natural fibre content varies between 30 and 70%). Automotive biocomposites for interior applications are still a growing market and are used for door panels/inserts, trunkliners, spare wheel covers, parcel trays, headliners, A-B-C columns and much more.

Applications for European Hemp Fibre from harvest 2010, in total 26,000 metric tonnes (EIHA 2012)



Cases, natural fibre and polypropylene, compress moulding (Germany).

Pictures: Hempro, Winter & Linotech



Urn, Hemp fibre and bioplastics, compress moulding or injection moulding (Germany).

Picture: nova



Hemp is good for agriculture, the environment and enhances regional development

Environment

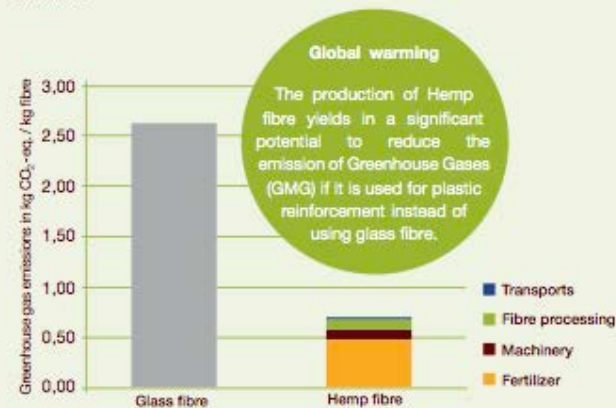
Hemp fibre



The environmental friendly cultivation of the Hemp crop (*Cannabis sativa* L.) is a key driver for economic success and the future expansion of sustainable Hemp products:

- Due to its vigorous growth and disease resistance, Hemp can be grown without the use of any agrochemicals, this is rare in agriculture today.
- In times of increasing monocultures, hemp is an enrichment for agro-biodiversity, a true rotational crop.

The processing of Hemp into its main products and by-products such as fibres and shivs requires no chemical additives and no water. Where Hemp is used in applications it has brought considerable ecological benefits.





Picture: Hemp Technology (UK)

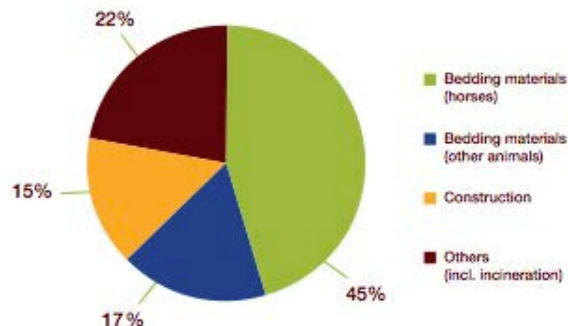
Applications for Hemp Shivs

High performance bedding material for horses and other animals like chickens is today the most important market for Hemp shivs. Hemp shivs can absorb moisture up to 4 times their dry weight. They are effective for much longer in the stable or poultry house compared to other materials thus saving working time. After use Hemp bedding rots down quickly into an excellent compost. Of the total Hemp shiv applications equine bedding has a market share of 45% and other bedding 17%.

An interesting new and increasing market is using Hemp shivs in combination with lime for construction. Here the market share for shivs is currently 15%. Over the last few years hundreds of private houses have been built in France, the UK and Ireland with this new material, which can be sprayed into a timber frame construction. The material is easy to handle, price competitive, shows good insulation properties for a construction material and it appears to be crack proof, a good attribute for earthquake risk areas. Eco-construction experts especially are seeing great potential in Hemp-Lime-Construction.

Small amounts also go to the particle board industry. Hemp shivs can be used to produce light weight particle boards (half the density).

Applications for European Hemp shivs from harvest 2010, in total 44,000 metric tonnes (EIHA 2012) in total 26,000 metric tonnes (EIHA 2012)



Pharmaceutical applications

THC, the well known cannabinoid responsible for the psychotropic as well as several pharmaceutical effects, exists only in very low concentrations in industrial Hemp (< 0.2%). In recent years, interest has been increasing in the therapeutic potential of another cannabinoids, which do not have any psychoactive effects. Even high doses do not cause any relevant side-effects. Cannabidiol (CBD) is the primary cannabinoid of industrial Hemp, present in concentrations in the range of 0.5 to 2% in the upper third of

the plant. There is potential for therapeutic use in a large number of diseases and symptoms. These include anxiety disorders such as post-traumatic stress disorder, psychosis, epilepsy, dystonia, diabetes, cancer, inflammatory diseases and Alzheimer's. In addition it may have an effect on skin diseases, hepatitis, obesity as well as ADHD (attention deficit/hyperactivity disorder). CBD can be utilized parallel to Hemp fibres and shivs, giving an extra income.

Processors

Hemp processors in the European Union

In Europe you can buy Hemp fibre directly from the processor. The following Hemp fibre producers are members of EIHA and together they can guarantee high quality standards and a secure continuity of supply. The seven listed Hemp processors produce on average each year between 10 and 15,000 tonnes of technical Hemp fibre. This is mainly used in natural fibre reinforced plastics and insulation materials. As Hemp is an annual crop this quantity can be easily and quickly increased according to demand.

Hemp fibre, shivs and seed producers:



Assocanapa srl

Supplier of food, clothing, cosmetics, fibre & shivs

Address Via Morello 2/A
 10022 Carmagnola (Italy)
Contact Giraudo Felice
Phone +39 (0) 11 9715898
E-mail assocanapasrl@gmail.com
Internet www.assocanapasrl.it



Hempro Int. GmbH & Co. KG

Supplier of food & clothing & cosmetics

Address Muensterstr. 336
 40470 Duesseldorf (Germany)
Contact Daniel Kruse
Phone +49 (0) 211 699 90 56-10
E-mail d.kruse@hempro.com
Internet www.hempro.com



CAVAC BIOMATERIAUX

Supplier of fibres & shivs

Address 12, Boulevard Réaumur BP 27
 85001 LA ROCHE-SUR-YON CEDEX
Contact Olivier Joreau
Phone +33 (2) 51 36 51 54
E-mail o.joreau@cavac.fr
Internet www.cavac.fr



Interchanvre

Association of french Hemp processors

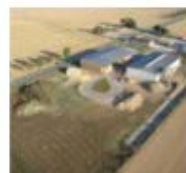
Address 20 Rue Paul Ligneul
 72000 Le Mans (France)
Contact Sylvestre Bertucelli
Phone +33 (0) 243 51 15 05
E-mail sylvestrebertucelli@interchanvre.org
Internet www.interchanvre.com



Dun Agro B.V.

Supplier of fibres & shivs

Address Raadhuisweg 11
 9665 JZ Oude Pekela (The Netherlands)
Contact Albert Dun
Phone +31 (0) 597 675 592
E-mail info@dunagro.nl
Internet www.dunagro.nl



Planète Chanvre

Supplier of fibres & shivs

Address Bellevue RD402
 77120 AULNOY (France)
Contact Philippe Heusele
Phone +33 (0) 96 69 47 726
E-mail heuselwphilippe@9business.fr
Internet www.planetechanvre.com

Daughter Company of Planète Chanvre:



HempFlax B.V.

Supplier of fibres & shivs

Address Postbus 142
 9665 JZ Oude Pekela (The Netherlands)
Contact Mark Reinders
Phone +31 (0) 597 615 516
E-mail info@hemplax.com
Internet www.hemplax.com



BAFA neu GmbH

Supplier of fibres & shivs & hempcrete solutions
seeds & planting seeds & oil & CBD

Address Stephanstr 2, 76316 Malsch (Germany)
Contact Bernd Frank
Phone + 49 (0) 7246 92 57 50
E-mail info@bafa-gmbh.de
Internet www.bafa-gmbh.de

Seeds & Oil



Hemp seeds

Hemp Seed is a nutritional powerhouse

"Hemp seed is a nutritional powerhouse," says German-American scientist Dr. Gero Leson.

"It is an excellent source of several critical mineral nutrients and vitamins. Its oil has an outstanding fatty acid spectrum; its protein is balanced and easily digested. Moreover well prepared Hemp foods are very appetising. I am convinced that Hemp seeds have a great food potential. Their nutritional composition and culinary versatility are very much in line with several major trends in the science and marketing of food".

In his comprehensive 1993 book on fat nutrition "Fats that heal, fats that kill", Dr. Udo Erasmus concluded "the best-balanced source of essential fatty acids is Hemp seed oil".



Hemp flour and hulled seeds & Hemp protein powder



Hemp bars

Hemp oil



Hulled seeds, protein, muesli, flour, whole seeds

Pictures: Assocanapa (IT), CANAH (RO), Hempro (DE) and Wholebake (UK)



Hemp müsli

Hemp oil

Pictures: Hempro Int. (DE)

Hemp Seeds and Hemp Oil as Food

Hemp Oil – excellent and unique fatty acid spectrum

Today's Hemp oil is typically a cold-pressed gourmet oil from mature well-dried seeds. Its most unique nutritional feature is the "almost perfect" balance of the omega-3 and omega-6 essential fatty acids plus the presence of two "higher" omega-3 and -6 fatty acids, stearidonic acid (SDA) and gamma linoleic acid (GLA). These offer known health benefits and are found in only a few other vegetable oils – yet nowhere as balanced and tasty as in Hemp oil.

A gross imbalance in the omega-3/6 ratio in the Western diet is now considered an important contributor to the high occurrence of inflammatory, cardiovascular, skin and even mental disorders. As a balanced source of these fatty acids, Hemp oil and seeds can help reduce their occurrence, in good taste.

Hemp Protein – high quality

Hemp seeds and seed cake flour contain a high quality protein. It is easily digestible, and contains all essential amino acids in a balanced ratio that satisfies the protein needs of adults. Commercially available protein flour and powders are high in protein and dietary fibre. They are used in shakes and smoothies, as well as for baking.

Minerals, Vitamins and other Micronutrients

Hemp seeds, nuts and flour also offer a bonanza of micronutrients that are often lacking in our diet. These Hemp seed materials are good or even excellent sources of magnesium, manganese, iron, zinc and potassium – and of several B1, B3 and B5 vitamins. Hemp seeds also contain significant amounts of phytosterols and of tocopherols, i.e. members of the Vitamin E complex. Overall, the nutritional richness and culinary versatility of Hemp seeds and their products make them an excellent basis for a healthy diet and a range of food products.

Typical Nutritional Composition of Shelled Hemp Seeds (per 100 gram)

Energy content:	580 kcal (2,430 kJ)
Fat:	45 g
Protein:	35 g
Total Carbohydrate:	8 g (Fibre: 6 g)
Ash:	6 g
Selected Minerals and Vitamins (in percent of daily value, DV):	
Phosphorus:	130 %
Magnesium:	150 %
Manganese:	450 %
Iron:	90 %
Zinc:	60 %
Vit B1 (thiamine):	90 %
Vit B3 (niacine):	30 %
Vit B5 (panthotenic acid):	90 %
Vit E (tocopherol):	20 %

Fatty acid composition of Hemp Oil (Varies with hemp variety)

Unsaturated fatty acids:	~ 90 %
Oleic acid (18:1 omega-9):	10 – 15 %
Linoleic acid (18:2 omega-6, essential):	55 – 60 %
Alpha-linolenic acid (18:3 omega-3, essential):	17 – 20 %
Gamma-linolenic acid (18:3 omega-6):	2 – 4 %
Stearidonic acid (18:4 omega-3):	0.5 – 2 %
Saturated fatty acids	~10%

European Industrial Hemp Association

EIHA was originally founded as an association of the members of the European Hemp Industry. Regular members include primary Hemp processors in the EU. Associate members may be associations, research organisations, companies and individuals working in the area of Hemp and other natural fibres. Founded in 2005, EIHA today has 10 regular and more than 72 associate members from 25 countries.

John Hobson is the President of EIHA and Michael Carus the Managing Director.

Join EIHA and support the Hemp Industry

EIHA was founded to give industry a voice at the European Commission in Brussels. It has rapidly become a respected industry association that provides effective lobbying and serves as an information bank. The annual EIHA conference (more information at www.eiha-conference.org) has become an important event in the industry and an attractive opportunity for members and visitors to meet, learn about developments and exchange views with their colleagues.

More information at www.eiha.org

Board Member (B) and Executive Office (E)



Mark Reinders (B)
HempFlax (NL)

John Hobson (B)
Plant Fibre Technology (UK)

Sylvestre Bertucelli (B)
INTERCHANVRE (FR)

Dominik Vogt (E)
nova-Institute (DE)

Bernd Frank (B)
BaFa (FR/DE)

Olivier Joreau (B)
CAVAC (FR)

Michael Carus (E)
nova-Institute (DE)

Daniel Kruse (B)
Hempro Int. (DE)

Modern Industry with high social standards. European Hemp Fibres are available now for your bio-based products!!

Many more companies are involved in the Hemp industry like non-woven, compounding and equipment businesses. Please look for a full list of EIHA-members at: www.eiha.org

Responsible for this leaflet:
European Industrial Hemp Association (EIHA)

Executive Office of EIHA

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E-mail info@eih.org
Internet www.eiha.org

Booth at the

7th Int. International Conference on Bio-based Material, Cologne, April 2014
(www.biowerkstoff-kongress.de). 150 participants over three days.



International Business Directory for Bio-based Materials: iBIB2014/15 www.bio-based.eu/iBIB

Agencies - Associations - Clusters - Councils



European Industrial Hemp Association

Association

EIHA was originally founded as an association of the members of the European Hemp industry. Regular members include primary Hemp processors in the EU. Associate members may be associations, research organisations and companies and individuals working in the area of Hemp and other natural fibres. Founded in 2005, EIHA today has 8 regular and more than 74 associated members from 28 countries. EIHA was founded to give industry a voice at the European Commission in Brussels. It has rapidly become a respected industry association that provides effective lobbying and serves as an information bank.

The annual EIHA conference (www.eiha-conference.org / more than 150 participants from 30 countries) has become an attractive opportunity for members and visitors to meet, learn about developments and exchange views with their colleagues. The conference is the most important event on industrial Hemp – worldwide!

European Hemp Fibres are available for your bio-based products: Today, China, Canada and Europe are the main Hemp cultivation areas in the world. In 2010 the total cultivation area in the European Union was around 10,000 ha. These areas produce around 24,000 t Hemp fibres. All by products like shivs (woody part of the Hemp stem) and dust are used. Main countries for Hemp production are France, UK, Germany, The Netherlands and Poland. Hemp fibres, ready to use in your bio-based products are price competitive to other domestic and exotic fibres for technical applications. Different qualities are available.



European Hemp fibre is currently used mainly in technical applications like speciality paper (cigarette paper, technical filters), insulation material, natural fibre reinforced plastics (automotive, industrial and consumer goods), mulch and cultivation fleeces. Especially insulation and plastic reinforcement show promising market increases. Different options for feeding Hemp fibres in injection moulding processing are available today.

The EIHA Hemp processors produce on average each year between 10,000 and 15,000 tonnes of technical Hemp fibres. As Hemp is an annual crop this quantity can be easily increased according to demand.

Please find the Hemp processors for your demand on www.eiha.org




Pictures (left to right):
Winter & Linotech, Hock, Lotus cars.

EUROPEAN INDUSTRIAL HEMP ASSOCIATION (EIHA)

Foundation

- 2005

Members

- Regular members: 8
- Associate members: 74

Key services

- Effective lobbying at the European Commission in Brussels
- Consulting
- Networking
- Huge EIHA database, more than 300 presentations, reports and documents

Contact

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www.eiha.org

Contact person



Michael Carus
Managing Director






Additional activities proposed at the EIHA board meeting on 2014-05-20:

- 1. Hemp:** DG Agriculture & CAP: Inclusion of Hemp in the Ecological Focus Areas (EFAs) – on going lobbying in Brussels
- 2. Food & feed:** THC limits for feed (and food) are developed by the European Food Security Agency (EFSA) – Input and cooperation by EIHA to avoid negative impacts for Hemp food & feed
- 3. Fibres:** Sustainability Certification for Hemp fibres with the widely accepted ISCC+ system, especially for the automotive industry; EIHA will support the first certifications from three Hemp processors
- 4. Food:** Develop THC guidelines for Hemp food
- 5. Food:** Develop Quality label and guidelines for hemp seeds

Additional activities proposed at the EIHA board meeting on 2014-05-20:

- 6. Fibres:** Leaflet on “Carbon Footprint and Sustainability of different Natural Fibres for Biocomposites” – mainly for the automotive industry (4,000 € from EIHA)
- 7. Hemp:** Bioeconomy Panel will select the European Hemp Industry as a case study for hurdles and support instruments; EIHA will support this study
- 8. Fibres:** Cooperation with the world wide natural fibre association DNFI
- 9. Fibres:** Share the “bio-based composites” stand at the next “Composite Europe 2014” (3,900 €, 3,000 € from Hemp processors and 900 € from EIHA)
- 10. Insulation:** Supporting Michael Carus as an expert in the pilot phase of the “Product Environmental Footprint (PEF)” on insulation materials (520 €/day including hotel and traveling)



11th International Conference of the European Industrial Hemp Association (EIHA)

May 21st – 22nd 2014, Rheinforum Wesseling (near Cologne, Germany)

EIHA
European Industrial Hemp Association



Sponsors

Partner



Record participation in 2014!

> 200 Participants from 39 countries

Sponsors

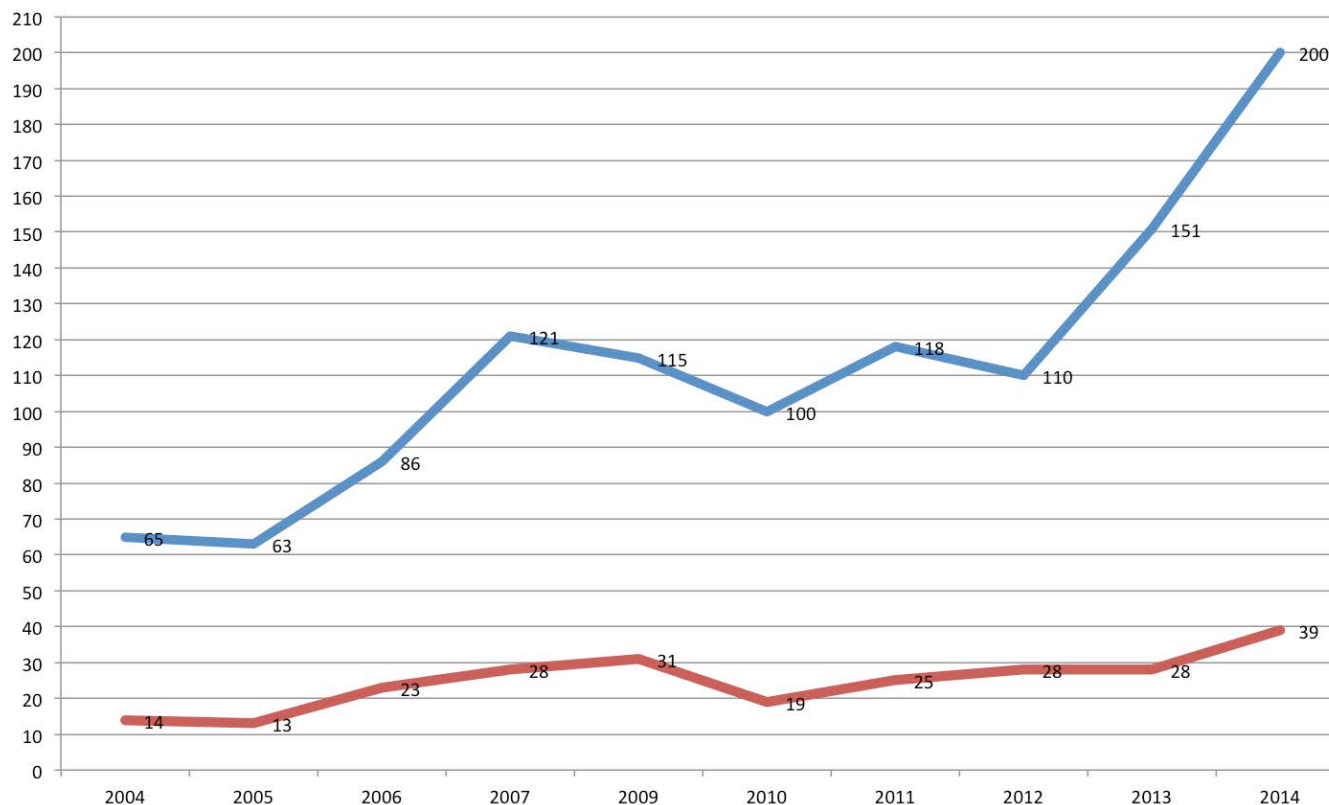


Media-Partner



Record participation in 2014!

> 200 Participants (blue) from 39 countries (red)



Benefits for EIHA members?

- Regular member are featured on the EIHA leaflet
- All questions and requests from the industry (more than 200 per year) are circulated to all EIHA members, creation of a hemp market place
- Free access to the huge EIHA database, more than 400 **presentations**, reports and documents
- Help the Hemp Industry to grow!
Help lobbying!
Don't let the policy forget Hemp!
- **With your support EIHA can realise**
 - **Information leaflets on hemp**
 - **Position Papers to Policy**
 - **Lobbying in Brussels**
 - **Studies & Reports on Hemp helping the whole industrial hemp sector, internationally**