

Institute of Natural Fibres

Coordination Centre  
of the FAO/ESCORENA

European Cooperative Research Network on Flax and other  
Bast Plants

E u r o f l a x  
*NEWSLETTER*

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European Cooperative  
Research Network on  
Flax and other Bast Plants

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Secretary of the Network – Maria Mackiewicz-Talarczyk M.Sc. (Agr)

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INF Scientific Information Centre

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*This publication contains the collective views of an international group of experts and does not necessarily represent the decisions or the stated policy of the Food and Agriculture Organization of the United Nations.*

## INTRODUCTION

Dear Readers,

I would like to bring your attention to the new important initiative of the Commodities and Trade Division of the Food and Agriculture Organization of the United Nations in Rome, Italy. As I mentioned in the EUROFLAX No 23, Mr Brian Moir, the Secretary of the Intergovernmental Group on Hard Fibres and the Intergovernmental Group on Jute, Kenaf and Allied Fibres, informed that in 2005, the FAO Conference called for 2009 to be declared the International Year of Natural Fibres (IYNF). This would raise the profile of natural fibres by emphasising their ecological attributes, and thus contribute to an increase in demand for these fibres and promote consumption. At the same time, it would promote partnership among the disparate groups in various countries associated with the various natural fibres industries. A previous similar project was organized by FAO in 2004 - the International Year of Rice. The IYNF will be a great challenge for the research and development of natural fibrous raw materials as well as for our network, which has been supporting the idea for a long time.



I appeal to all of you, the network members, to be part of the preparations, to present proposals on how to conduct this event in the most fruitful way and simultaneously, on how to promote the cultivation, production and processing of natural fibrous raw materials throughout the entire world.

During FAO's 6th Intersessional Consultation on Fibres, held on 2 December 2005 in London, the Institute of Natural Fibres as Coordination Centre of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, made several proposals concerning IYNF (see the information on page 8). Our ideas met with the approval of the governmental representatives from the following regions: Latin America, Africa, as well as Canada and the USA.

One of my ideas is to edit and publish the book "Flax and Hemp - the past and the future". In addition we plan to co-organize a conference on natural fibres in India (see a call on page 10) and a conference devoted to industrial fibrous raw materials in 2007 in Canada. Moreover we plan to appeal to the renowned fashion designers, drawing their attention to natural fibres as an excellent source of fashionable and comfortable fabrics.

I would appreciate your opinions, ideas and contributions, also from the experts working with other natural fibers e.g. abaca, cabuya, cotton, jute and sisal.

All your views will be considered. Thank you in advance.

Looking forward to your contributions.

Yours sincerely,

The Editor, Prof. Dr. Ryszard Kozłowski

## STRUCTURE OF THE NETWORK

The European Cooperative Research Network on Flax and other Bast Plants is one of the eleven active networks working within ESCORENA (European System of Cooperative Research Networks in Agriculture). The contact person for ESCORENA in FAO is Ms. Jutta Krause, Regional Representative for Europe, FAO Regional Office for Europe (REU), Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy. General information on ESCORENA, the network coordinators, and publications of network results in the REU Technical Series is available on the website of REU

[http://www.fao.org/world/regional/reu/Content/Escorena/index\\_en.htm](http://www.fao.org/world/regional/reu/Content/Escorena/index_en.htm)

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Secretary of the Network – Maria Mackiewicz-Talarczyk M.Sc. (Agr.), Institute of Natural Fibres, Poznan, Poland, tel.: +48(0) 61 8455 823

At present, the whole Network brings together 357 experts from 52 countries in the fields of research, economics, marketing and industry. Member countries are: Argentina, Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Latvia, Lithuania, Mexico, Netherlands, Nigeria, Norway, Pakistan, Poland, Portugal, Serbia and Montenegro, Romania, Russia, Slovak Republic, Spain, South Africa, Sweden, Switzerland, Thailand, Turkey, UK,

Ukraine, and the USA.

The Network is represented in South America by Prof. Dr. Alcides Leão (UNESP-Universidade Estadual Paulista, SP-18603-970 Botucatu, Brazil, tel. +55 14/6802 7163, fax +55 14/6821 3438, e-mail: [alcidesleao@fca.unesp.br](mailto:alcidesleao@fca.unesp.br)), and Ing. Agr. Daniel Sorlino, Cátedra de Cultivos Industriales, Facultad de Agronomía, Universidad de Buenos Aires, Av. San Martín 4453 (1417) Cap., tel.: 4524-8074/8040, fax: 4514-8739, e-mail: [dsorlino@mail.agro.uba.ar](mailto:dsorlino@mail.agro.uba.ar), in North America by Dr. Paul Kolodziejczyk, Lead Scientist, New Crops & New Products, Olds College Centre for Innovation, 4500 -50th Street, Olds, Alberta, Canada T4H 1R6, tel.: (403) 507-7970, fax: (403) 507-7977, e-mail: [paulk@admin.oldscollege.ab.ca](mailto:paulk@admin.oldscollege.ab.ca), www.oci.ab.ca, in the Near East by Prof. Dr. Dardiri Mohamed El-Hariri, National Research Centre, El-Tahrir str., Dokki Cairo, Egypt, tel.: +202/ 33 77164, fax: +202/ 33 70931, e-mail: [profelhariri@netscape.net](mailto:profelhariri@netscape.net). Dr. Rajesh Anandjiwala represents Network in Africa [National Fibre, Textile & Clothing Centre (NFTCC), CSIR, Manufacturing & Materials Technology Unit, e-mail: [Ranandi@csir.co.za](mailto:Ranandi@csir.co.za), [Rajesh.Anandjiwala@upe.ac.za](mailto:Rajesh.Anandjiwala@upe.ac.za), fax: +27-(0) 41-583 2325, tel.: +27-(0) 41-508 3273, Address: CSIR, P.O. Box: 1124, Gomery Avenue, Summerstrand, Port Elizabeth 6000, South Africa].

Mr. Alvin Ulrich, Saskatchewan Flax Development Commission, 161 Jessop Avenue, Saskatoon, SK, Canada S7N 1Y3, tel.: 1.306.668.0130, fax: 1.306.668.0131, e-mail : [aulrich@biolin.sk.ca](mailto:aulrich@biolin.sk.ca). Please note that it is officially accepted that Mr. Ulrich would act as flax representative from Canada in the FAO/ESCORENA Network on Flax and other Bast Plants. He has also the support from the Saskatchewan Flax Development Commission.

**NETWORK WORKING GROUPS (WG):****WG/1. Breeding and Plant Genetic Resources**

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The reports of the developments of the quality activities within European program: the COST Action 847: TEXTILE QUALITY AND BIO-TECHNOLOGY, coordinated by Prof. S. Sharma were described in some previous issues (WG News).

## WG/5. Non-Textile Applications

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## WORKING GROUP NEWS

*Please note!*

*A more detailed description regarding the activities of the WG1/, WG/2 and WG/4 was given in issue 22. Other Working Groups' reports were included in all previous editions of this bulletin and can be provided on request by the Network Coordinator.*

Activities of the Network are aimed at solving the following problems:

- Development and cultivation of bast fibrous plants is a specific niche production, which can provide with comfort for human body due to eco-friendly properties of natural fibres.
- Reduction in the deficit of lignocellulosic fibrous raw material in Europe.
- Contribution to the reduction in over-production of food in Europe.
- Utilization of by-products such as linseed for the production of agro-fine-chemicals applied to healthy food and nutrition.
- Reclamation of industrial areas polluted with heavy metals by the cultivation of heavy metal-absorbing bast fibrous plants (non-food crops)
- Contribution to sustainable development of rural areas of Europe and other regions.

## FLAX, HEMP AND ALLIED FIBRES IN THE WORLD

### A Current Situation of Fibre Flax in China

*Fengzhi Guan and Guangwen Wu. The Research Institute of Industrial Crops, Heilongjiang Academy of Agricultural Sciences, Harbin, China, 150086, E-mail: wuguangwenflax@163.com*

#### 1. Advantages of fibre flax in China

Fibre flax has been planted for over 90 years since its first planting in Heilongjiang Province in 1905, shortly after a successful planting trial of Berna NO.1 variety was conducted and which had been introduced by the Chinese Government in Qing Dynasty in Liaoning Province from Japan.

The Heilongjiang Province is located in northeast China and with its high latitudes offers favourable natural conditions, very suitable for the growth of flax. Planting of fibre flax is concentrated here and accounts for 80 percent of the national flax area. The production area of the whole country has reached more than 130 000 hectares. Flax straw yield is 3.75t/ hectare growing in large area.

More than 100 textile enterprises with a production capacity of 700 000 spindles need from 80 000 to 12 0000 tonnes of fibre per year. There is a total of more than 140 flax processing mills with an annual production capacity of only 40 000 to 50 000 tonnes of fibre, in 50 percent deficient in need. From 2003, China has imported 63 000 to 100 000 tonnes of flax fibre every year.

#### 2. Scientific research of flax in China

The Institute of Industrial Crops of the Heilongjiang Academy of Agricultural Sciences has been engaged in scientific research on flax for more than 50 years. Experts in our institute made most of the proposals and implemented in national level projects.

The Institute has conducted and made a wide scientific exchange and cooperation with seven countries, including Belgium, Canada, Czech Republic, France, Netherlands, Poland, and Russia. Notable results have been achieved in scientific exchange. The Institute is now mainly engaged in research of cross breeding of flax, induced mutation, target gene transfer, extraneous sources DNA inducement, flax male sterile utilization, fibre developing laws, micro-organism glue removal, cultivation, plant protection and germplasm, etc. It has successfully introduced in succession two cultivars from foreign countries: Ariane and Argos and has obtained a widespread application of Heiya No.1 to No.14 etc, totalling more than ten varieties. The new varieties of flax such as Heiya No.8, 9, 10, 11 flax straw yield about 6 000 to 6 895.9kg /hectare, long fibre rate of 16 to 20 percent and fibre output of the flax about 1 000kg per hectare. Heiya No.3 was awarded a third grade prize for invention by the state and Heiya No.2,3,4,6 and 8 were all awarded a second grade prize for scientific and technological progress in agriculture by the Heilongjiang provincial government.

#### 3. Problems

In China the production of raw materials lags behind. Unable to meet the demands of the textile industry and export, the production of fibre flax in China is insufficient in quantity and inferior in quality.

The breeding and planting systems are not well organized and not completely formed; the capability and extension of seed multiplication are not sufficient. Flax mills are short of high-quality seeds and advanced technologies, while the scientific research sections are short of funds.

Crop production has a low degree in mechanization, has no special machines for sowing flax seeds as they only use wheat sowing machines, which results in a larger quantity of seeds to drill, with different seed sowing depth, uneven density and low seedling guarantee rate. In the mid 1980s, flax pullers were introduced from the former Soviet Union but over 80 percent of the flax fields are still harvested manually.

#### 4. Proposals for development in production of flax

##### ▪ To strengthen the scientific research work of flax

Firstly, breed a new variety of flax with high quality, yield and resistance to various diseases, and the necessary cultivation technology. According to different ecological regions, breed new varieties with different characteristics. Pay close attention to problems of lodging, resistance to blasting and cold, and develop varieties of flax with high fibre content, fibre strength, splitting degree, carding rate and fine yarn count.

Study necessary high quality and effective cultivation technologies to guarantee that the quality and yield are enhanced gradually. Set up various high quality and yield cultivation modes in light of the different characteristics of various varieties, application scope, product potential, local ecological conditions and market demands, etc.



## **News about Flax in Canada.**

***Mr. Alvin Ulrich, President, Fibre specialist, Biolin Research Inc., 161 Jessop Avenue, Saskatoon, SK, Canada S7N 1Y3, tel.: 1 306 668 0130, fax: 1 306 668 0131, e-mail: aulrich@biolin.sk.ca***

On January 9, 2006, we had a successful Flax Day in Saskatoon with 142 registered participants. Flax Day is always on the first or second Monday of January and coincides with the annual general meeting of the Saskatchewan Flax Development Commission. The annual general meeting generally starts at 8:30 and ends at 9:45 AM. We then have speakers from 10:00 AM to 4:30 PM with each speaker having about 30 minutes. Most speakers presentations revolved around flax seed research and marketing efforts; only Alvin Ulrich and one other speaker talked about R&D related to straw and fibre. With relatively high energy costs in North America now, there is rapidly growing interest in burning flax straw or shives for heat. There are more than 15 companies making biomass burners but, at present, there have been few tests comparing the performance of different burners.

In western Canada we generally use natural gas for heat (energy). Only in the last three years, the natural gas price has risen by a factor of roughly three. Now other sources of energy are becoming more cost competitive with natural gas. We have lots of soft and semi hard coal - it can still be purchased for C\$45 to C\$55 per tonne; it has not gone up in price with natural gas. Most people do not have a burner to burn flax shive fuel pellets or briquettes. They would have to buy a special burner; such burners could also burn coal. This puts a "ceiling" on the price that could be charged for flax shive fuel pellets since the coal price is still so cheap. It will cost about C\$30 to 40/tonne to bale and haul flax straw to a central location. It will cost C\$20 to 30/tonne to turn the straw into pellets. This means that, at best, it would cost C\$50 to produce flax shive pellets and the local users may be only willing to pay C\$50 to C\$70, so not much profit is to be gained. Shive fuel pellets are much more valuable in Europe but rail and sea freight for shive pellets to Europe from Saskatchewan are quite high. Is there a potential to export fuel pellets to Europe?

The Saskatchewan government has estimated that about 640 000 ha of oilseed flax were harvested in 2005 in Saskatchewan and the production of linseed was about 880 000 tonnes. This compares to 455 000 ha and 460 000 tonnes of linseed in 2004 (production was very low in 2004 because of an unusually early frost). Since the Saskatchewan area and production represent 75 to 80 percent of total production in Canada the Canadian supply of linseed greatly increased in late 2005 and farm prices are now only about 60 percent as high as they were in the spring of 2005. However, the price of other crops has also dropped due to high local supplies and the rising value of the Canadian dollar (since internationally traded grains are usually priced in US\$, when the Canadian dollar rises relative to the American dollar, it has the effect of lowering the Canadian dollar price that Canadian farmers receive for their grain). In the spring of 2006, the profit potential for growing linseed is much lower than it was last year but it is still higher than for most other crops, so Canadian linseed area is expected to be relatively large again in 2006.

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## **Co-operation with the FAO, Rome, Italy**

***Contact person Mr. Brian Moir, FAO, Rome, Italy, E-mail: Brian.Moir@fao.org***

## **Proposed International Year of Natural Fibres 2009**

***To raise awareness of natural fibres, to promote efficiency and sustainability of the natural fibres, and to foster an effective international partnership among the various natural fibres industries***

A resolution was carried by the Thirty-third Session of the FAO Conference, 19 to 26 November 2005, asking the Director-General of FAO to write to the Secretary-General of the United Nations requesting that 2009 be declared the International Year of Natural Fibres.

Most countries produce some natural fibres; for some developing countries natural fibres are of major economic importance. In other cases these fibres are of less significance at the national level but are of major local importance in particular regions of these countries. Proceeds from the sale and export of natural fibres and fibre products often contribute significantly to the income and food security of poor farmers and processors in the least developed countries. As natural products of plant or animal origin, natural fibres are environmentally friendly.

The objectives of the International Year of Natural Fibres would be:

- To raise awareness of these fibres, both of their importance to the agricultural communities that produce them, and of the health/welfare and environmental benefits of producing and consuming them;
- To promote the efficiency and sustainability of the natural fibres industries by promoting the sharing of knowledge and the results of experience at the international and national level;
- To foster an effective international partnership among the various natural fibres industries and other relevant parties who will participate in the celebration of the IYNF, and who will be sustained to function actively in the future.

Planning and coordination activities, which to some extent have already begun, will need to move forward actively from the beginning of 2006 if a successful International Year of Natural Fibres is to be observed in 2009. One of the first priorities is to seek funding from donors to cover the activities, e.g. of providing publicity, operating one or two specific events such as international conference on natural fibres, etc.

*Note: you are welcome to present your intimations, ideas and proposals on how to contribute to the celebration of the International Year of Natural Fibres 2009*

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## ACTIVITIES OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS

### Next Conferences Proposals

#### *Proposal of event with the Network involvement*

#### 2006

- June 12-13, 2006. **12<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2006**, Magdeburg, Germany, Contact person: Dr. Frank Pudel, ÖHMI Consulting GmbH, Managing Director, Berliner Chaussee 66, 39114 Magdeburg, Germany, tel.: +49-391-8507-0, fax: +49-391-8507-150, e-mail: narossa@oehmi-consulting.de. Event co-organised by Institute of Natural Fibres, Poznan, Poland
- November 28<sup>th</sup> to December 1<sup>st</sup> 2006. **III Symposium on Natural Fibres, Full Use of Fibres and Textile Applications (FIBRATEX 2006)**, as a part of **13<sup>th</sup> SCIENTIFIC CONVENTION ON ENGINEERING AND ARCHITECTURE (CCIA 2006)**, CUJAE, Cuba, Havana, November 28<sup>th</sup> to December 1<sup>st</sup> 2006. Organizer of **FIBRATEX 2006**: El Instituto Superior Politécnico “José Antonio Echeverría” (CUJAE). Contact person: Ms. Martha Mazorra Mestre, Jefa Grupo de Tensioactivos y Emulsiones, Universidad Técnica de Energía Renovable (UTER), CUJAE, Cuba, Havana, tel.: 537-266 3633, e-mail : marta@ceter.cujae.edu.cu, conrado@ceter.cujae.edu.cu [http://www.cujae.edu.cu/DocumentosHTML/Vinculos/CCIA\\_percent202006.htm](http://www.cujae.edu.cu/DocumentosHTML/Vinculos/CCIA_percent202006.htm)
- December 7-8, 2006. **Conference on Natural Fibres: Vision 2020** organised by North India Section of Textile Institute (NISTI), New Delhi, India. Contact person: Prof. R. Chattopadhyay, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, tel.: +91-11-26591412 (O), +91-11-26581977 (R), fax: -91- 11-2658-1103, e-mail: rchat@textile.iitd.ac.in and Prof. V. K. Kothari, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, tel.: +91-11-26591401 (O), +91-11-26591937(R), fax: 91- 11-2658-1103, e-mail: kothari@textile.iitd.ac.in

#### 2007

- October/November 2007. **International textile conference**, Rumania, Contact person: Dr Cecilia Sirghie, E-mail: cecilias1369@yahoo.com

**Conference on Natural Fibres: Vision 2020, New Delhi, India, December 7-8, 2006.**

**Call For Papers**

**CONFERENCE ON  
NATURAL FIBRES: VISION 2020**

**8-9<sup>th</sup> December 2006  
New Delhi, India**

**Organized by  
North India Section of Textile Institute (NISTI), India**

**in collaboration with  
Institute of Natural Fibres, Coordination Centre FAO/SCORENA European Cooperative Research  
Network on Flax and other Bast Plants, Poland**

Lightweight, strong and low-cost natural fibres have been for centuries made into clothing as well as a number of other products like baskets, sacks, ropes, and rugs. Over the years a large number of natural fibres such as cotton, wool, silk, linen, bamboo, sisal, jute, coir and abaca have found usage in a wide variety of applications.

From the first cultivation of flax, cotton and domestication of sheep and goats, humans have manipulated natural fibres, through selective planting and breeding, to better fulfil their needs. These days, technology in fibres goes far beyond merely choosing which goats should breed or what variety of cotton should be planted. Cotton breeding these days includes bioengineering of cottonseed for preferred fibre qualities like staple length and for resistance to drought and pests to improve yield and reduce the need for pesticides. The technological advances associated with fibres and textiles do not stop there, however. A unique combination of properties inherent in natural fibres makes them extremely suitable for many applications. They can be blended with man-made fibres to exploit the positive attributes of both natural and man made fibres and develop products manifesting properties not achievable with one type of fibre. Comfort and function are mixing with style to provide a new generation of textile products. New technologies like nanotechnology and bio technology are being used to enhance the properties and performance of natural fibre products. With the growing concern about fitness and wellness, consumers are seeking garments that are rugged, long-lasting, breathable, flexible and stylish. Policy makers, researchers and even consumers are becoming more and more aware of this fact.

The beauty and uniqueness of natural fibres should be exploited and their shortcomings need to be addressed through research and development. A significant amount of work has been done to enhance the quality of natural fibres, their processing and finishing.

The conference offers a platform to all the stake holders to discuss all aspects related to natural fibres so as to have an understanding of their current state of development and secure their future in the competitive environment in the years to come.

**Topics/Areas**

Papers are invited highlighting the advances in the following broad areas:

- Status of natural fibres in the world and especially in India
- Product, process development and quality issues
- Traditional and new applications
- Use of natural fibres in technical textiles
- Comfort, handle and care properties of natural fibre products
- Blends of natural fibres
- Performance enhancement of natural fibre products
- R & D in natural fibres
- Finishing of natural fibre textiles
- Use of exotic natural fibres

- Natural fibre biocomposites
- Bioengineering in fibres (designer needs, transgenic cotton, spider silk, natural fibres and nanotechnology)
- Sustainability in fibres (organic cotton, abaca)

## About Organizers

### North India Section of the Textile Institute (NISTI)

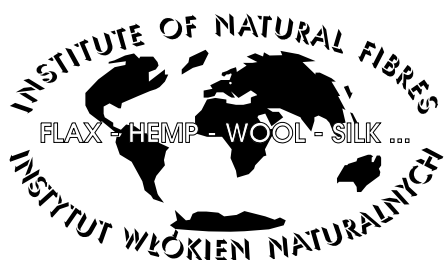


**The Textile Institute  
North India Section**

NISTI was formed in 1989. It is a subsidiary of the Textile Institute, Manchester, U.K. The Textile institute is an international association, spanning every sector and occupation relating to fibres and their uses, which together form the world's largest industry. Its mission is to promote professionalism and provide a global network for the long-term development of the industry.

In countries where there is concentration of members, national committees and local sections have been set up to cater for their needs. Each section is run by a committee elected by it and has representatives on the council. The section organizes a number of activities that are of direct interest and relevance to local conditions. Atypical programme includes factory visits, meetings, workshop, conferences, seminars, and social events. Keeping in line with these objectives, NISTI organizes a number of activities year around to promote professional knowledge and provide networking for growth and development. NISTI is administered by an Executive Committee comprising eminent professionals drawn from the industry and technical institutes.

### Institute of Natural Fibres (INF), Coordination Centre FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, Poland Section of the Textile Institute



#### FAO/SCORENA

EUROPEAN COOPERATIVE  
RESEARCH NETWORK ON  
FLAX AND OTHER BAST  
PLANTS

INF is an interdisciplinary research centre with international standing, involved in complex research on obtaining and processing natural raw materials (flax, hemp, silk, wool, etc.). In particular, it carries out research on the cultivation and agricultural technology of fibre crops, genetic engineering, biotechnology, retting and spinning technologies.

INF is conducting research in natural fibres processing for their use in the textile and other industries (transport, building, pulp and paper etc.). By-products from lignocellulosic plant processing are utilized for bio-composites. Chemical transformations of by-products into agrochemicals are applied in pharmacy, nutrients, dietetic food and cosmetics. Institute of Natural Fibres acts as the Coordination Centre FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants (since 1989), as well as the Centre of Excellence on Natural Lignocellulosic Fibrous Raw Materials "CELLUBAST" since 2004. Director General, The FAO/SCORENA Network coordinator: Prof. Dr. Ryszard Kozłowski, E-mail: sekretar@inf.poznan.pl

## Programme Schedule

Announcement / Call for papers:	10 <sup>th</sup> April 2006
Last date of receiving of Abstract of papers:	30 <sup>th</sup> June 2006
Date of announcement of acceptance of papers:	15 <sup>th</sup> August 2006
Date for receiving of text of full Paper:	30 <sup>th</sup> September 2006

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## POSSIBILITIES OF COOPERATION WITH OTHER NETWORKS AND ASSOCIATIONS IN TEXTILES AND ON INDUSTRIAL CROPS

1. The Textile Institute, 1st Floor St James's Buildings, 79 Oxford Street, Manchester M1 6FQ, UK, tel.: +44 (0) 161 237 1188, fax: +44 (0) 161 236 1991, e-mail: tihq@textileinst.org.uk, Web: www.textileinstitute.org. Membership Manager: Stephanie Powell, spowell@textileinst.org.uk
2. CELC/MASTERS OF LINEN, 15, rue du Louvre, 75001 Paris, France, tel.: +33(0)1 42 21 06 83, fax : +33(0)1 42 21 48 22, e-mail : info@mastersoflinen.com <http://www.mastersoflinen.com>
3. The E-mail Forum: Information Exchange on Natural Fibres, operated by FAO's Commodities and Trade Division, contact person: Brian Moir, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy, fax: +39 06 57054495, tel.: +39 06 57054339, e-mail: Brian.Moir@fao.org  
To subscribe to the forum, send an email to mailserv@mailserv.fao.org, leave the subject line blank, with the message: subscribe Fibres-Indy-L. Website: <http://www.fao.org/es/esc/>
4. INFORRM-IENICA – Industry Network for Renewable Resources and Materials – Interactive European Network for Industrial Crops and their Applications in the new Millennium. Coordinator: Mr. Melvyn F. Askew, Defra, Central Science Laboratory at York, SAND HUTTON, YORK, UK YO41 1LZ, tel. 44-1904-462309; fax: 44-1904-462029, e-mail: m.askew@csl.gov.uk, For more data see <http://www.ienica.net/> and [www.industrialcrops.eu.com](http://www.industrialcrops.eu.com).
5. Flax Council of Canada; The Council is based in Winnipeg, with Mr. M. Barry Hall as President. The previous president Mr. Donald H. Frith retired. The address of this institution is: FLAX COUNCIL OF CANADA, 456-167 Lombard Avenue, Winnipeg, Manitoba, Canada R3B 0T6, tel.: (204) 982-2115, fax: (204) 942-1841, e-mail: flax@flaxcouncil.ca
6. Saskatchewan Flax Development Commission, A5A-116-103rd Street East, Saskatoon, Saskatchewan, S7N 1Y7, tel.: (306) 664-1901, fax: (306) 664-4404, e-mail: saskflax@saskflax.com, Web site: [www.saskflax.com](http://www.saskflax.com)
7. The Fiber Society with Mr. Charles A. Cannon Professor as Secretary, Director Emeritus, Nonwoven Cooperative Research Center, College of Textiles, Box 8301, North Carolina State University, Raleigh, NC 27695-8301 USA, e-mail: subhash\_batra@ncsu.edu, web page URL: [thefibersociety.org](http://thefibersociety.org)
8. International Hemp Association, Postbus 75007, 1070AA Amsterdam, The Netherlands. tel/fax: +31 (0)20 618-8758, e-mail: [iha@euronet.nl](mailto:iha@euronet.nl)
9. European Industrial Hemp Association (EIHA). Coordinator: Dr. Michael Karus, nova – Institut, Institut für politische und ökologische Innovation, Nachwachsende Rohstoffe, Thielstr. 35, 50354 Hürth, Germany. tel: +49/2233 94 3684, fax: +49/2233 94 36 83, e-mail: michael.karus@nova-institut.de. <http://www.eiha.org/>
10. The Hemp Foods Industry. Contact persons, John Roulac, call (800) 993-4367, Nutiva, P.O. Box 1716, Sebastopol, CA 95473. <http://www.nutiva.com/>
11. Olds College Centre for Innovation Natural Fibre Centre (OCCI), 4500 -50th Street, Olds, Alberta, Canada T4H 1R6, tel.: (403) 507-5206, fax: (403) 507-7977, e-mail: [relvestad@admin.oldscollege.ab.ca](mailto:relvestad@admin.oldscollege.ab.ca), [www.occi.ab.ca](http://www.occi.ab.ca)
12. Agrofibre Network, Finland, contact person: Antti Pasila, University of Helsinki, e-mail: [antti.pasila@helsinki.fi](mailto:antti.pasila@helsinki.fi)
13. GRiCI (Research Group on Industrial Crops) headed by Prof. Dr. Gianpietro Venturi, Full Professor of Agronomy and Crop Science, Department of Agroenvironmental Science and Technologies (DiSTA), University of Bologna – ITALY, tel.: +39 051 2096652, fax: +39 051 209 6241. For more pieces of information see EUROFLAX Newsletter No 23, January 2005.



## SPECIAL STUDIES, NEWS, FORUM OF THE DISCUSSION

### Support for the Processors of Flax and Hemp Straw for Fibre in Poland

*Jerzy Mankowski, Maria Mackiewicz-Talarczyk – Institute of Natural Fibres, Poznan, Poland,  
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After the accession of Poland to the European Union in 2004, the increase in financial support for rural areas and farmers took place. Under the Common Agricultural Policy, among other ways of providing financial support to flax and hemp market subsidies for the processing of flax and hemp straw for fibre have been introduced. The above-mentioned mechanisms are based on the following regulations:

- (European Commission) Regulation No 1673/00 of 27.07.2000 and according to the domestic law.

The subsidies are granted for the processing of:

- long flax fibre
- short flax fibre
- hemp fibre

The subsidies are provided in the framework of domestic quota, which for Poland are: 924 tonnes of long flax fibre, 462 tonnes of short flax fibre and hemp fibre.

The subsidy sum to the processing of flax and hemp straw for fibre varies depending on the economic year (season) as well as the kind of fibre produced.

The subsidies to the fibrous plant processing in the European Union countries, including Poland are:

1. Long flax fibre
  - 160 Euro in 2002/03 to 2005/06
  - 200 Euro from the season 2006/07
2. Short flax fibre or hemp fibre, containing below 7,5 percent impurities
  - 90 Euro in 2001/02 to 2005/06

The economic subjects eligible for subsidies to the processing of flax and hemp straw are:

- the authorised processors
- or agriculture producers (treated as processors), who order the processing by the authorized processor.

In the season 2004/05 a total of 5 745 ha of flax and 910 ha of hemp was cultivated in Poland. The authorized processors declared for subsidies 218 ha flax and 81 ha of hemp cultivation. They obtained subsidies for 151 tonnes of long flax fibre and 266 tonnes of short flax fibre and hemp fibre produced.

The subsidies to the processing of flax and hemp straw for fibre have encouraged domestic producers and in the season 2005/06 the number of authorized processors has increased significantly.

In the season 2005/06 so much as 1 507 ha of flax and 129 ha of hemp have been subsidized.

The estimated and predicted subsidized production in this season is: 1 350 tonnes of long flax fibre, and 1 400 tonnes of short flax fibre and hemp fibre.

The expected production of both long flax fibre and short flax fibre and hemp fibre will exceed the quotas for Poland, which are: 924 tonnes and 462 tonnes respectively. This causes several nonsensical situations for the Polish processors. One of the examples is the value of mean output index for long flax fibre, short flax fibre and hemp fibre from 1 ha of flax and fibrous hemp cultivation. This index for the season 2005/06 is described to be 0.613 t/ha for long flax fibre and 0.282 t/ha for short flax fibre and hemp fibre, in spite of much higher outputs, obtained in the practice by the processors.

This index is quoted in the regulation of the Polish Ministry of Agriculture and Rural Areas development, based on the regulation regarding the organization of some agricultural markets of 20.12.2002 and the regulation of the EC No 245/2001. We presume that this will result in the decrease of the subsidies for Polish processors of flax and hemp straw.

The present European Union rules do not predict further subsidies to the flax and hemp straw processing after the season 2005/06.

The analyses aiming at the elaboration of the necessary changes in the subsidies system, granted in the scope of Common Organization of Agriculture Markets for the European flax and hemp sector are being conducted (Report by Ernst & Young).

The attitude and standpoint of the Polish processors of flax and hemp regarding the future of the subsidies are synonymous and unanimous: they are for maintaining the existing subsidies at least at the present level.

The potential lack of the EC subsidies to the processing of straw into short flax fibre and hemp fibre, in the complicated situation on the fibrous plant market, destabilized by increasing and uncontrolled import of linen textiles and cloth garments from China, will result in further increasing of the following, negative economic and social phenomena in the Polish linen industry:

- reduction of the cultivation area and production of fibre flax and hemp, connected with the destabilization of the situation in the industry referring to the crop rotation and conducting reasonable and profitable agricultural production;
- closing up a part of the retting mills – involved in the primary processing of flax and hemp straw into fibre;
- decrease of the competitiveness of domestic textile raw materials, reduction of their supply on the linen market, negative information for the textile industry;
- increase of the fibre import;
- the liquidation of the work places, unemployment rise in the agriculture sector, especially prone to structural unemployment;
- reduction of the income of the producers and processors of bast fibrous plants;
- decrease of the possibility of the investment and modernization of the equipment and machines for harvesting and processing of flax and hemp, which would allow for the increase of yield, outputs, quality and work safety;
- reduction of the financial means for research and implementation of pilot projects in the scope of bast fibrous plant processing;

The above mentioned problems are very vital and of great interest for the flax and hemp society not only in Poland and are the subject of the discussions, exchange of the ideas and opinions on the international fora as well.

In 2005, the following meetings and consultations regarding the actual situation and prospects for the flax and hemp market took place, in the cooperation with the Polish Chamber of Flax and Hemp and the Institute of Natural Fibres in Poznan, namely:

- The meeting with the director Jean Charroin of the AND International and Ernst & Young regarding the current situation of the Polish linen industry in connection with the planned reform of the flax and hemp market – Poznan 30 March, 2005;
- The visit of the representatives of the Federation Nationale des Producteurs de Chanvre from France (President Bernard Lutel, Director Sylvestre Bertucelli). Aim: presentation of the cultivation, processing and utilization of industrial hemp in Poland. Meetings with the representatives of Marshal Office, Great Poland Agriculture Chamber as well as the Great Poland Chamber of Industry and Trade – Poznan, Steszew, Zyrardow 10 -12 May, 2005;
- The exchange of the information and evaluation of the situation and prospects of flax and hemp production development in Poland and Czech Republic; the meeting of Polish Chamber of Flax and Hemp and Lnarsky Svaz České Republiky (President Prokop Šmirous, Director Miroslav Hochman ) – Poznan 07 July, 2005;
- The meetings connected with a visit in Poland of the European Commission delegation: Mr Vincent Oldenhove, Ms Susana Humanes, and Ms Monika Filipczynska. The presentations and discussions with the representatives of the Polish Chamber of Flax and Hemp and the Institute of Natural Fibres regarding the situation of the linen industry in Poland and perspectives of its further functioning and EU support strategy. – Poznan, Steszew – 23 September, 2005.

The attitude and standpoint of the Polish linen and hemp society regarding the necessity of maintaining the support and the help to cultivation and processing of flax and hemp for fibre (for the harmonious functioning and development of the market of flax and industrial hemp in Europe) has been clearly expressed and presented both by the Polish Chamber of Flax and Hemp and the Institute of Natural Fibres to Confédération Européenne Du Lin et Du Chanvre (CELC) with headquarter in Paris and COPA (Committee of Professional Agricultural Organizations in the European Union) and COGECA (General Confederation of Agricultural Cooperatives in the European Union) in Brussels.

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### **News from the Institute of Natural Fibres (INF), Poznan, Poland**

The Institute of Natural Fibres took part in the 54<sup>th</sup> WORLD EXHIBITION OF INNOVATION, RESEARCH AND NEW TECHNOLOGY, "Brussels Eureka!" 2005, which took place on November 16-20, 2005 in Brussels, Belgium.

Four of the exhibited inventions of INF and cooperating Polish research organizations were awarded, namely:

1. **Method of fibrous plants degumming** Gold Medal (authors: Prof. Dr. Ryszard Kozlowski, Wanda Konczewicz M.Sc., The Institute of Natural Fibres, Poznan, Poland and Mr. Anwar M. Allam, Egypt)

2. **Composites obtained from thermoplastic polymers and short flax or hemp fibres** Gold Medal (authors: Prof. Dr. J. Garbarczyk<sup>1</sup>, Prof. Dr. Ryszard Kozłowski<sup>2</sup>, J. Mankowski<sup>2</sup> Ph.D. Eng., D. Paukszta<sup>1</sup> Ph.D. Eng., S. Borysiak<sup>1</sup> Ph.D. Eng., M. Helwig<sup>2</sup> Ph.D. Eng., <sup>1</sup>The Technical University of Poznan, <sup>2</sup>The Institute of Natural Fibres, Poznan, Poland. This invention has been awarded as well with the Ministry of the Education and research of Romania.
3. **Underwear manufactured with natural fibres „Treasures Protection”** Gold Medal (authors: Prof. Dr. Ryszard Kozłowski, Malgorzata Florysiak M.Sc., Eng, The Institute of Natural Fibres, Poznan, Poland)
4. **Method of hemp harvesting and hemp harvester** Silver Medal (authors: Prof. Dr. Ryszard Kozłowski, Ryszard Kaniewski Ph.D. Eng, Wladyslaw Rynuch Ph.D. Eng., Jerzy Mankowski Ph.D. Eng., The Institute of Natural Fibres, Poznan, Poland)

## SOURCES OF INFORMATION

### Major links to information on network activities and/or network members

- [http://www.fao.org/world/Regional/REU/Content/Escorena/index\\_en.htm](http://www.fao.org/world/Regional/REU/Content/Escorena/index_en.htm) [Website of ESCORENA, FAO – Regional Office for Europe]
- <http://www.inf.poznan.pl> [Institute of Natural Fibres, Poznan, Poland]
- <http://www.csl.gov.uk/ienica>, <http://www.ienica.net> [IENICA – Interactive European Network for Industrial Crops and their Applications in the Changing Millennium]

### Websites of the Network Chairmen:

- <http://www.agritec.cz> [Martin Pavelek, AGRITEC, Šumperk, the Czech Republic]
- <http://www.fh-reutlingen.de> [Martin Tubach, Institut für Angewandte Forschung (IAF), Reutlingen, Germany]
- <http://www.qub.ac.uk> [Shekhar Sharma, The Queen’s University of Belfast, UK]
- <http://www.univ-rouen.fr> [Claudine Morvan, Université de Rouen, France]

### Sources of Statistical Data:

A new FAO Statistical Bulletin on Jute, Kenaf, Sisal, Abaca, Coir and Allied Fibres has just been released and it is on FAO website at: [http://www.fao.org/es/esc/en/20953/21005/21524/highlight\\_51023en.html](http://www.fao.org/es/esc/en/20953/21005/21524/highlight_51023en.html)  
<http://www.texdata.com>, <http://www.its-publishing.com>, [www.naturfaser-wirtschaft.de](http://www.naturfaser-wirtschaft.de)  
[www.agrofibrecomposites.com](http://www.agrofibrecomposites.com) - Agrotechnology and Food Innovations website on natural fibre composites

### Internet Hemp Information Sources

- <http://Hemp-CyberFarm.com/>(information about hemp events, research organizations, correspondence, current legislative efforts in the USA, etc.)
- Hemptech: The Hemp Information Network (<http://www.hemptech.com/hnews.html>)
- <http://www.interlog.com/~ihn>, [www.naturfaser-wirtschaft.de](http://www.naturfaser-wirtschaft.de)
- [www.hemp.co.uk](http://www.hemp.co.uk) regarding Hemp Food Industries Association Contact person: Mr. Paul Beinhaim, e-mail: [paul@hemp.co.uk](mailto:paul@hemp.co.uk)
- <http://www.nutiva.com/>

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## LINKS OF THE FAO/ESCORENA EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS WITH DIFFERENT NETWORKS AND PROJECTS

The European Cooperative Research Network on Flax and other Bast Plants establishes links with the Cotton Network, intending to share and compare the achievements in scope of e.g. bioprocessing of fibres and materials. The close cooperation of the Coordination Centre with the FAO Intergovernmental Group on Jute, Kenaf and Allied Fibres as well as the Intergovernmental Group on Hard Fibres resulted in the continuous participation of the Network Coordinator in the meetings of these Groups as well as in co-operation.

The Network’s members and the Coordination Centre have cooperated and worked within the following EU projects and European programme:

- Within *COST– European Co-operation in the Field of Scientific and Technical Research*).
  - COST Action 847: *Textile Quality and Biotechnology* Chairperson: Dr. Johanna Buchert, VTT Biotechnology, Tietotie 2, P.O. Box 1500, Espoo, Finland, tel: + 358 456 5146, fax: + 358 94552103, E-



mail: johanna.buchert@vtt.fi More pieces of information see COST Action 847 news in some previous issues of the bulletin

- COST Action 628. Life Cycle Assessment of Textile Products, Eco-Efficiency and Definition of Best Available Technology (BAT) of Textile Processing. Chairwomen – Eija Nieminen, Dr. Techn., Director at University of Art. and Design, UIAH DESIGNIUM – The New Centre of Innovation in Design. Hämeentie 135 C, 00560 Helsinki, Finland. Numbers of tel.: ++358 9 756 30424, fax: ++ 358 9 756 30433. e-mail: eija.nieminen@uiah.fi More details about activities of the Cost Action 628 were presented in Euroflax Newsletter No 17.

2. INFORM-IENICA project. IENICA was the Interactive European Network for Industrial Crops and their Applications in the Changing Millennium. Coordinator: Mr. Melvyn F. Askew, Defra, Central Science Laboratory at York, SAND HUTTON, YORK, UK Y041 1LZ, tel.: 44-1904-462309; fax: 44-1904-462029, e-mail: m.askew@csl.gov.uk



## NEWS ABOUT THE EUROPEAN PROJECTS WITH INVOLVEMENT OF NETWORK MEMBERS

**Hemp Sys.** Design, Development and Up-Scaling of a Sustainable Production System for **Hemp** textiles: an Integrated Quality **SY**Stems Approach. <http://www.hempsys.net>. Project Coordinator: Gianpietro Venturi - Tel. +39 051 2096652 - Fax +39 051 2096241, Email: gventuri@agrsci.unibo.it. Objectives: The main objective of this project is to promote the development of a competitive, innovative and sustainable hemp fibre textile industry in the EU by:

- a) Developing an improved, ecologically sustainable production chain for high quality hemp fibre textiles coupled to an integrated quality system for stems, raw and processed fibres, yarns and fabrics based on eco-labelling criteria.
- b) Providing a comprehensive economic assessment of EU and international fibre hemp markets, consumer requirements and EU-production costs and returns.
- c) Disseminating as much as possible the knowledge generated using the latest information technologies.

**EUROFLAX.** The activities of the Queens University of Belfast have been on assessing quality of fibre from scutching to yarn and fabric. The following tasks, enzyme-processing steps, environment friendly bleaching recipes to replace chlorite and application of spectroscopy to evaluate fibre quality were carried out. A number of commercial processes were developed and treated yarn samples were woven to prove the efficacy of the treatments.

**CORTEX.** Corona irradiation in textile finishing. Project realized with the INF involvement 2002 to 2005.

**FLEXIFUNBAR.** Multifunctional Barriers For Flexible Structures (Textile, Leather, Paper). Contract nr 505864 (NMP2-CT-2004-505864) Integrated Project, Coordinator: DUFLOT INDUSTRIE S.A. – Caudry, France. The period of realization: 10.2004 – 09.2008. <http://194.206.224.27/> Countries participating: Belgium, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Poland, Portugal, Spain, Sweden. Partners: 50 (more pieces of information in EUROFLAX No 23)

**EUROCROP.** Agricultural Research for Improving Arable Crop Competitiveness. The project under final steps before the start of the realisation.

**BIOKENAF.** BIOMass production chain and growth simulation model for KENAF.

Contract No°: QLK5-CT2002-01729. Coordinator: Centre of Renewable Energy Sources (CRES), Greece. Funding: U.E. Start date: 2003; duration: 3 years. Partners: CRES (Greece), University of Catania (Italy), University of Thessaly (Greece), BTG (France), CETA (Italy), INIA (Spain), FCT/UNL (Portugal), ATO (The Netherlands), UNIBO (Italy), INRA (France), ADAS (UK). Description: The overall objective of the project is to introduce and evaluate kenaf as a non-food crop through an integrated approach for alternative land use in South EU that will provide diversified opportunities for farmers for biological materials for the "bio-based industries" of the future. Specific objectives are: determination of the sustainable yielding potential of kenaf; development of a dynamic growth simulation model; evaluation of the effect of harvesting time and storage methods to the quantity and quality of harvested material; evaluation of the suitability of kenaf for both selected industrial and thermochemical energy applications; environmental assessment and LCA to make scenarios for alternative land use in South EU; economic evaluation of kenaf for alternative land use; preparation of a handbook and booklet for kenaf; link establishment between Biokenaf and AKS (American Kenaf Society).

**Please, note:** the data about projects are delivered only by INF. The Network members were and are kindly requested to contribute to the list, mentioned in the title of the chapter.



## NEWS REGARDING PUBLICATIONS ON NATURAL FIBRES

### “NATURAL FIBRES – WLOKNA NATURALNE” – a Yearbook of INF

A publication that was probably the unique in the world, which contained scientific publications regarding natural fibres (an English-Polish version yearbook), edited by the Institute of Natural Fibres – Coordination Centre of the FAO Network. Since 2004 *Natural Fibres* is replaced by a new quarterly *Journal of Natural Fibers*.

### “JOURNAL OF NATURAL FIBERS”

*Journal of Natural Fibers* (ISSN: 1544-0478), a quarterly edition, is published by the recognized publishing house The Haworth Press, Inc. Binghamton, NY, USA [for more details see: [www.haworthpressinc.com](http://www.haworthpressinc.com)]. **All scientists are welcome to publish relevant papers in this publication.** Contact: Prof. Dr. Ryszard Kozłowski- Editor-in-Chief, fax/tel.: +48(0) 61 8417-830, E-mail: [sekretar@inf.poznan.pl](mailto:sekretar@inf.poznan.pl) or co-editor for USA Richard Kotek Ph.D., College of Textiles North Carolina State University, Raleigh, E-mail: [rkotek@unity.ncsu.edu](mailto:rkotek@unity.ncsu.edu), tel: (919) 515-6585, fax: (919) 515-6532. For information on the contents, publication schedule, submission requirements, please check - <https://www.haworthpress.com/store/product.asp?sku=J395%20>.

The publication is advised by the international team of Honorary Editors: A. M. Allam/Egypt, S. Anjing/China, A. Atanassov/Bulgaria, S. K. Batra /USA, A. Bledzki/Germany, N. Chand/India, A. Daenekindt/Belgium, D. M. El-Hariri/Egypt, H.P. Fink/Germany, L. Hes/ Czech Rep., Z. A. M. Ishak/Malaysia, Z. Izsaki/Hungary, U. Kechaiga/Greece, R. Kessler/Germany, F. K. Ko/USA, P. Kolodziejczyk/Canada, J. Lappage/New Zealand, M. Lewin/USA, G. Mackie/Northern Ireland, T. Matsuo/Japan, C. Morvan/France, F. Munder/Germany, K. Perepelkin/Russia, A. Pretova/Slovak Rep., D. Radhavan/India, A. Riva/Spain, R. M. Rowell/USA, D. Sorlino/Argentina, H. Tokura/Japan, G. Venturi/Italy, V.V. Zhivetin/ Russia. The Polish Honorary Editors: H. Burczyk, P. Baraniecki, J. Barriga -Bedoya, R. Fiedorow, J. Flaczyk, K. Heller, B. Mac, I. Maciejowska, M. Mackiewicz-Talarczyk, M. Muzyczek, K. Wielgus, A. Wlochowicz, I. Wojciechowska.

### Contents of recent, already published, issues of the Journal of Natural Fibers

#### Journal of Natural Fibers (ISSN: 1544-0478). Contents of Volume 2, Number 1 2005

1. The Influence Of Growing Factors And Plant Cultivation Methods On Biomass And Fibre Yield Methods On Biomass And Fibre Yield As Well As On Fibre Quality Of Hemp (*Cannabis sativa* L.), T. Schäfer
2. How Does Light Intensity Affect The Elementary Fiber Length In Flax? M Agosti., D. Sorlino, N. Trapani
3. Trends And Methods In Hemp Breeding In Poland. H. Burczyk., M. Kowalski., M. Plawuszewski
4. Analysis Of Hemp Chemical Pulp Monosaccharide Degradation Compared To Aspen And Spruce Chemical Pulp. F Correira., D Roy
5. Refining Hemp Fibers For Papermaking. C. Delibas, Trass
6. Characterisation And Determination Of Properties Of Sri Lankan Coconut Fibres. S.Y Nanayakkara, R. L. C. Wijesundara
7. Oriented Strandboard (OSB) Panels Made From Kenaf Stalks And Aspen. Poo Chow, D. S Bajwa

#### Miscellaneous

##### New patents and technologies:

1. Steam Distillation Of Essential Oils From Hemp Panicles. R. Kaniewski, W. Konczewicz
2. Ecological Linen Underwear. M. Florysiak

#### Journal of Natural Fibers (ISSN: 1544-0478), Contents of Volume 2, Number 2 2005

1. The Development of the Study on Technique for Introducing Exogenous DNA into Flax in China. Wang Yu Fu□Kang Qing Hua, Liu Yan, Li Xi Chen, Liu Shao Jun
2. Flax Improvement By Biotechnology Means. M. Evtimova, M. Vlahova, A. Atanassov
3. Effect of Lipase Pretreatment on the Dyeability of Wool Fabric. A. Kantouch, W.M. Raslan, and H. El-Sayed
4. Single Bath Full Bleaching of Flax Fibers Using An Activated Sodium Chlorite / Hexamethylene Tetramine System. M.K. Zahran, M.F. Rehan, M.H. El-Rafie
5. Structural Impediments And Prospects For Improved Australian Cotton Production. H. Kidane
6. Toughness Characteristics Of *Arenga Pinnata* Fibre Concrete. H. A. Razak, T. Ferdiansyah

Columns: The world market: Prospects For Traditional Jute Products. G. Mackie

Miscellaneous: Research applied to global knowledge of flax development. D. Sorlino

Information: Texas Tech University Researchers Develop Materials Friction Software, S. Slemmons

#### **Journal of Natural Fibers (ISSN: 1544-0478), Content of Volume 2, Number 3 2005**

1. Composition Of Flax Hypocotyl Fibres. Ch. Andème-Onzighi, O. Douchiche, A. Driouich, C. Morvan
2. Significance Of Different Carbon Sources On Shoot Development Of *Miscanthus* Genotypes. Sz.Toth, P. Pepo
3. Flax Fibers Sorption Properties Influenced By Different Pretreatment Processes. T. Kreže, S. Iskrač, M. Sfiligoj Smole, K. Stana-Kleinschek, S. Strnad, D. Fakin
4. Chemical Finishing Of Linen And Ramie Fabrics. E. Kim, E. Csiszár
5. Low Temperature Chrome Dyeing Of Wool. S.H. Abdel-Fattah, E.M.El-Khatib
6. Highlights On Functional Foods, With Special Reference To Flaxseed. S. Y. Al-Okbi

Reports From Conferences, Symposia, Workshops

- Plant Genetic Resources In Biodiversity Conservation. Report from 2<sup>nd</sup> Polish Conference. G. Silska
- Information about the 2<sup>nd</sup> International Conference on Plant Ontogenesis in Natural and Transformed Environments. Physiological, Biochemical and Ecological Aspects. K. Heller, M. Byczynska

#### **Journal of Natural Fibers (ISSN: 1544-0478). Contents of Volume 2, Issue: 4 2005**

1. The Effect Of Nitrogen Dose, Sowing Density And Time Of Harvest On Development And Yields Of Hemp Cultivar Bialobrzeskie. L. Grabowska, W. Koziara
2. Hemp Fiber Microstructure And Use Of Fungal Defibrillation To Obtain Fibers For Composite Materials. A. Thygesen, G. Daniel, H. Lilholt, A. B. Thomsen
3. The Beneficial Influence Of Enzymatic Scouring On Cotton Properties. J. Kim, S. Y. Kim, E. K. Choe
4. Preparation Of Cotton Materials Using Corona Discharge. N. Carneiro; A.P. Souto; C. Nogueira; A. Madureira; C. Krebs; S. Cooper
5. Evaluation Of The Influence Of Fibre Length And Concentration On Mechanical Performance Of Hemp Fibre Reinforced Polypropylene Composite. M. Pervaiz, M. Sain, A. Ghosh

Columns

1. Information About New Books:
  - E.L. Pashin "Agricultural Production And Technological Quality Of Flax" (In Russian: "Agroprodukcija I Tekhnologicheskoye Kachestvo L'na"), Kostroma 2004, 208 Pages – Information Prepared by R. Fiedorow
  - S. J. Kowalski, Thermomechanics Of Drying Processes, Springer Verlag Berlin Heidelberg New York, 2003, 365 Pages – Information Prepared by R. Kaniewski
2. Reports From Conferences: Report On The 3<sup>rd</sup> Global Workshop (General Consultation) Of The FAO/SCORENA European Cooperative Research Network On Flax And Other Bast Plants. "Bast Fibrous Plants For Healthy Life", hold On October 24-28, 2004 in Banja Luka, Bosnia and Herzegovina, Republic Of Srpska - Prepared By M. Mackiewicz-Talarczyk, I. Maciejowska
3. Press Release: The Report Of China Textile Industry Development Published

**Note: Content of Issue No 1 and 2 in the EUROFLAX No 2, the content of issue 3 and 4 of Volume 1 are provided in the EUROFLAX No 23 and on the request.**

### **PUBLISHING ACTIVITY OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS since 1989**

- Newsletter of the ad Hoc Research Group (the Group acted from 1989 to June 1993) – 9 issues

EUROFLAX Newsletter

Information Bulletin *EUROFLAX Newsletter* – 23 issues since 1994 (200 printed copies, reaches subscribers and Network members in 52 countries), available from the Institute of Natural Fibres, Wojska Polskiego 71b, 60-630 Poznan, Poland, fax: +48 61 8 417 830, e-mail: boint@inf.poznan.pl.

PROCEEDINGS

of the European Regional and Global Workshops:

- "FLAX IN EUROPE", Production and Processing, Poznan, 19- 21 June 1989 (available from the Institute of Natural Fibres)

- “FLAX – AS A FIBRE AND OIL BEARING CROP”, Brno, Czechoslovakia, 18-20 June 1991 (available from AGRITEC, Research, Breeding & Services Ltd, Zemědělská 16, 787 01 Šumperk, The Czech Republic, e-mail: agritec@agritec.cz)
- “FLAX IN THE WORLD” Bonn, Germany, 15-17 June 1993 (available from the Institute of Natural Fibres)
- “PRODUCING FOR THE MARKET” – Proceedings of the 4th European Regional Workshop on Flax, 25-28 September 1996, Rouen, France (available at the Institut Technique du Lin 5, Rue Cardinal Mercier, 75009 Paris, France, tel.: +33/1 42 80 40 56, fax: +33/ 1 45 26 24 27)
- “BAST PLANTS IN THE NEW MILLENNIUM” – Proceedings of the Second Global Workshop, 3-6 June, 2001, Borovets, Bulgaria
- CD Proceedings of “Bast Fibrous Plants for Healthy Life”, October 24-28, 2004, Banja Luka, Bosnia and Herzegovina, Republic of Srpska

PROCEEDINGS of conferences (almost all available from the Institute of Natural Fibres, Poznan, Poland):

- The First Flax Genetic Resources Workshop, Poznan, Poland, 9-10 November 1993
- The Second Flax Genetic Resources Workshop Brno, 8-9 November 1994
- First Workshop of the Non-Textile Applications of Flax Working Group 14-15 November 1994, INF, Poznan, Poland
- Modern Flax Processing – The First Workshop of the Extraction and Processing Working Group, 15-16 March 1995, INF, Poznan, Poland
- Breeding for Fibre and Oil Quality in Flax – Proceedings of the Third Meeting of International Flax Breeding Research Group 7-8 November 1995, Saint-Valéry-en-Caux, France (a few copies are available from Eng. Jean-Paul Trouvé, CETEAL, Saint-Pierre-Le-Viger, 76740 FONTAINE-LE-DUN, France, tel.: +33/ 35974133, fax: +33/35971318
- Proceedings of the Symposium: Flax and Other Bast Plants, held at the Institute of Natural Fibres, 30.09 and 1.10.97, Poznan, Poland
- Proceedings of the Hemp, Flax and Other Bast Fibrous Plants Production, Technology and Ecology Symposium, 24-25 September 1998, Poznan, Poland
- Proceedings of the Bast Fibrous Plants Today and Tomorrow, Breeding, Molecular Biology and Biotechnology Beyond 21st Century, 28-30 September 1998, St. Petersburg, Russia
- Book of abstracts of the Fifth International Conference on Frontiers of Polymers and Advanced Materials (ICFPAM) and NATO Advanced Research Workshop on Polymers and Composites for Special Applications; 21 and 25 of June 1999, Institute of Natural Fibres, Poznan, Poland
- Research into New Uses of Natural Fibres (1999). Seminar Materials of the FAO Intersessional Consultation on Fibres, 15-16 November 1999, Institute of Natural Fibres, Poznan, Poland
- Innovative Hemp Production and Hemp Products (The News in Hemp Breeding, Cultivation, Harvesting and Processing). Seminar Materials. 23 February 2000, Institute of Natural Fibres, Poznan, Poland
- The Natural Fibres. Włokna Naturalne. Special Edition Vol. XLIV 2000. Special Jubilee Edition – Proceedings of the International Scientific Session: “Natural Fibres Today and Tomorrow”, held on 28 and 29 June 2000, Institute of Natural Fibres, Poznan, Poland
- Proceedings of the Conference Bast Fibrous Plants at the Turn of Second and Third Millennium, 18-22 September, 2001, Shenyang, China
- Proceedings of the Workshop of the FAO/SCORENA Network: Mapping of European Germplasm for International Flax Data Base Creation, use in Breeding for different Flax and Linseed Varieties, September 18 – 19, 2002, Šumperk, Czech Republic
- CD Proceedings of the Conference “Flax and Allied Fibre Plants for Human Welfare”, December 8-11, 2003, NRC, Cairo, Egypt
- CD Proceedings of the Conference 11<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005, Institute of Natural Fibres, Poznan, Poland, June 6-7, 2005
- CD Proceedings of the FAO/SCORENA International Conference “Textiles for sustainable development”, CSIR, Port Elizabeth, South Africa, October 23-27, 2005

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## OTHER RELATED PUBLICATIONS

### Industrial Crops

- Journal of Natural Fibers. published by the publishing house The Haworth Press, Inc. Binghamton, NY, USA [for more details see: [www.haworthpressinc.com](http://www.haworthpressinc.com)]. For more see page 17.
- Newsletter of IENICA – The Interactive European Network for Industrial Crops and their Application, available at: <http://www.ienica.net/>
- IPGRI Newsletter for Europe, published by the International Plant Genetic Resources Institute, Rome, Italy. e-mail: [m.colas@cgiar.org](mailto:m.colas@cgiar.org)

- FIBRES & TEXTILES in Eastern Europe, published by the Institute of Chemical Fibres, Lodz, Poland, e-mail: iwch@mazurek.man.lodz.pl
- Green – Tech Newsletter. Edited by Prof. Dr. Hans Derksen – chairman of the Platform for Renewable Raw Materials P.O. Box 822, 3700 AV Zeist, The Netherlands. fax: +31 (0) 30 691 73 94
- Fabulous Fibre. The Natural Fibre Centre Newsletter. Olds College Centre for Innovation Natural Fibre Centre (OCCI), 4500 –50th Street, Olds, Alberta, Canada T4H 1R6, tel.: (403) 507-5206, fax: (403) 507-7977, e-mail: relvestad@admin.oldscollge.ab.ca, www.occ.ab.ca
- Polish Flax and Hemp Chamber bulletin - Biuletyn Informacyjny Polskiej Izby Lnu i Konopi: “LEN I KONOPIE”, ISSN 1731-4828, Poznan, Poland, e-mail: hempflax@inf.poznan.pl (bi-annual)
- Journal of Ivanovo State Textile Academy, Ivanovo, Russia: Scientific and Technical Journal – Technology of Textile Industry (available at <http://education.ivanovo.ru/IGTA/OURJOURN.htm>)
- International Textile Bulletin and Nonwovens/Industrial Textiles. Published by ITS Publishing. International Textile Service P.O. Box, CH-8952 Schlieren/Zürich, Switzerland
- CSL News, published by Central Science Laboratory, Sand Hutton, York, UK. e-mail: science@cls.gov.uk
- The newest issue of the Journal of Textile and Apparel, Technology and Management (JTATM), is available (<http://www.tx.ncsu.edu/jtatm>)
- Kozłowski R, Władysław-Przybylak M.: Chapter 10 Natural Polymers Wood and Lignocellulosic. – in book “ Fire Retardant Materials” ed. by Horrocks, Woodhead Publishing Limited, Cambridge, Great Britain, 1999
- Kozłowski R., Władysław-Przybylak M: Chapter 14 Uses of Natural Fiber Reinforced Plastics in book "Natural Fibers, Plastics and Composites” ed.by F.T. Wallenberger and Norman E. Weston Kluwer Academic Publishers, Boston, Dordrecht, New York, London 2004
- Cook Gordon J.: Handbook of Textile Fibres. 5th ed. Cambridge England: Woodhead Publishing Ltd., 2001
- Schenk Anton: Naturfaser Lexikon. Frankfurt am Main: Deutscher Fachverlag, 2000
- V. V. Zhivetin, L. N. Ginzburg, O. M. Ol’sanskaja: Len i Jego Kompleksnoje ispol’zovanie (Flax and its Complex Utilization- publication in Russian). M.: Inform-Znanije, 2002. Moscow, Russia
- Daniel Nilsson: Analysis and Simulation of Systems for Delivery of Fuel Straw to District Heating Plants. ACTA UNIVERSITATIS AGRICULTURAE SUECIAE.. SWEDISH UNIVERISTY OF AGRICULTURAL SCIENCE. AGRARIA 205. doctoral thesis, Uppsala 1999
- Gennady E. Zaikov (N. M. Emanuel Institute of Biochemical Physics, Moscow, Russia), Ryszard Kozłowski (Institute of Natural Fibres, Poznan, Poland) - Editors: CHEMICAL AND PHYSICAL PROPERTIES OF POLYMERS, NOVA SCIENCE PUBLISHERS, INC., NY, USA, 2005. ISBN: 1-59454-206-6.
- Bast and other Plant Fibres, Edited by Robert R. Franck, Consultant, UK. Woodhead Publishing Limited, Cambridge, England. 2005. Chapter: Ramie, prepared by R. Kozłowski, M. Rawluk, J. Barriga-Bedoya of the Institute of Natural Fibres, Poland. pp. 207-226, [www.woodheadpublishing.com](http://www.woodheadpublishing.com)
- Biodegradable and Sustainable Fibres. Edited by R. S. Blackburn. Woodhead Publishing in Textiles, Cambridge, England. 2005. Chapter: Bast Fibres (flax, hemp, jute, ramie, kenaf, abaca) prepared by R. Kozłowski, P. Baraniecki, J. Barriga-Bedoya of the Institute of Natural Fibres, Poland. pp. 36-85, [www.woodheadpublishing.com](http://www.woodheadpublishing.com)
- The Manual for Flax Growers. Elaborated by the Institute of Natural Fibres, Poznan, Poland. (in print, in Polish, could be translated into English)

## Hemp

- Journal of Industrial Hemp – the journal of the IHA (e-mail: iha@euronet.nl) – International Hemp Association in the Netherlands, edited by The HAWORTH Press, INC, New York, London, Norwood (Australia), e-mail: BCohen7719@aol.com, <http://www.haworthpress.com>
- Journal of Cannabis Therapeutics – a sister journal of Journal of Industrial Hemp, edited by The HAWORTH Press, INC. (New York, London, Norwood (Australia), e-mail: BCohen7719@aol.com
- Leson Gero, Pless Petra: Hemp Food and Oil for Health – Your Guide to Cooking, Nutrition, and Baby Care; HEMPTECH, 64 p., Sebastopol 06/99
- Roulac John W.: Industrial Hemp, Practical Products – Paper to Fabric to Cosmetics. HEMPTECH/Chelsea Green Publishing, 50 p., Sebastopol 06/96 [john@hemptech.com, HEMPTECH, (707) 823-2800, [www.hemptech.com](http://www.hemptech.com), P.O. Box 1716 Sebastopol, California 95473 <+> fax (707) 823-2424, fax orders: (419) 281-6883, e-mail orders: orders@bookmaster.com.
- Bocsa I., Karus M.: The Cultivation of Hemp – Botany, Varieties, Cultivation and Harvesting. HEMPTECH/Chelsea Green Publishing, 186 p., Sebastopol 02/98
- Grotenhermen F., Karus M., Lohmeyer D.: Hemp Foods and THC Levels: A Scientific Assessment. HEMPTECH/Chelsea Green Publishing, 67 p., Sebastopol 10/98
- The Hemp Commerce & Farming Report, (c) 1999 Ahem, Arthur Hanks. Contact at the e-mail address: jfreeman@ssm.net, <http://www.hempreport.com>
- John E. Dvorak, e-mail: boston.hemp@pobox.com invites you to visit the archives by performing a DejaNews power search for Dvorak, hemp, and archives: [http://www.dejanews.com/home\\_ps.shtml](http://www.dejanews.com/home_ps.shtml)

- [www.maff.gov.uk/farm/acu/acu.htm](http://www.maff.gov.uk/farm/acu/acu.htm) – there are several good papers related to utilization of natural fibres on the UK MAFF web site
- Henryk Burczyk: *Hemp Cultivated for Seeds – The Manual for Hemp Farmers* (available at the Institute of Natural Fibres, Poznan, Poland)
- Mathias Broeckers: *Cannabis. Hanf. Hemp. Hanvre. Cañamo. Nachtschatten Verlag, 2002, Für die Deutsch Sprachige Ausgabe. AT Verlag, Aarau, Schweiz.*
- Paolo Ranalli: *Advancements in Hemp Research. Haworth Press Inc., USA. 1999*

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## INFORMATION ABOUT INTERNATIONAL CONFERENCES CONNECTED WITH NATURAL FIBRES AND TEXTILES

### Conferences

#### 2006

- March 22-24, 2006. *The 61<sup>st</sup> Flax Institute conference*. Contact: Ms. Lisa Johnson, NDSU Plant Science, Fargo, USA, E-mail: [lisa.johnson@imap.ndsu.nodak.edu](mailto:lisa.johnson@imap.ndsu.nodak.edu)
- April 2-4, 2006. *Textile Processing: State of the Art & Future Developments*. NRC, Dokki, Cairo, Egypt. Contact: Prof. N. A. Ibrahim, NRC, Tahrir St., 12311 Egypt, Tel.: +202 33 71211, +202 33 70931, E-mail: [info@nrc.org.eg](mailto:info@nrc.org.eg)
- April 5-6, 2006. *6<sup>th</sup> Global Wood and Natural Fibre Composites Symposium*, Kongress Palais, Kassel-Stadthalle, Germany. Contact: University of Kassel, Tel.: +49 561/804-3675, Fax: +49 561/804-3692, E-mail: [m.murr@uni-kassel.de](mailto:m.murr@uni-kassel.de), [www.wpc-nfk.de](http://www.wpc-nfk.de) and [www.kutech-kassel.de](http://www.kutech-kassel.de)
- April 20-21, 2006. *Nonwovens Research Academy 2006*. Roubaix (Lille), France. The event will be hosted by ENSAIT (l'Ecole Nationale Supérieure des Arts et Industries Textiles) with the operational partnership of IFTH (Institut Français Textile-Habillement). Organised in cooperation with STFI (Sächsisches Textilforschungsinstitut e.V.) and the Nonwovens Research Group of Leeds University. Contact: Ms. Giovanna Merola, Tel.: +32 2 740 18 19, E-mail: [giovanna.merola@edana.org](mailto:giovanna.merola@edana.org)
- April 28, 2006. Final conference of the project *HEMP SYS: Design, Development and Up-scaling of a Sustainable Production System for HEMP Textiles: an Integrated Quality SYStems Approach*. University of Bologna, Italy, <http://www.hempsys.net>. Contact: Dr. Stefano Amaducci, Istituto di Agronomia e Coltivazioni erbacee, Via Emilia Parmense, 84, 29100 Piacenza, Italy, Tel.: +39 0523 599223, Fax: +39 0523 599222, Email: [stefano.amaducci@unicatt.it](mailto:stefano.amaducci@unicatt.it)
- May 8-10, 2006. *5th European Motor BioFuels Forum*, Hilton Newcastle-Gateshead. Contact: EUROPOINT, Congress & Exhibition Organisers, Contact: Ms. Marieke Bouman, P. O. Box 822, 3700 AV ZEIST, The Netherlands, Tel.: +32 (0) 30 6933 489, Fax: +32 (0) 30 6917 394, E-mail: [mbouman@europoint-bv.com](mailto:mbouman@europoint-bv.com), web: [www.europoint-bv.com](http://www.europoint-bv.com)
- May 17-19, 2006 *7<sup>th</sup> INTERNATIONAL CONFERENCE EKOTEXTIL 2006 'Ecological Certification Significant Marketing Aspect'*. Ustron, Poland. Organisers: The Institute of Textile Materials Engineering Lodz, Poland, Österreichisches Textil-Forschungsinstitut Vienna, Austria, VÚTCH-CHEMITEX Žilina, Slovak Republic. Contact person: Włodzimierz Szczepaniak, The Institute of Textile Materials Engineering, 118 Gdanska Str., 90-520 Lodz, Poland. Tel.: (48 42) 253-44-00, Fax (48 42) 253-44-90, E-mail: [iimw@mazurek.man.lodz.pl](mailto:iimw@mazurek.man.lodz.pl)
- June 4-7, 2006. *4<sup>th</sup> International conference on Textile Biotechnology*, Seoul, Korea, contact person: Ms. Eun Kyung Choe, KITECH, Seoul, Korea, E-mail: [ekchoe@cosmos.kitech.re.kr](mailto:ekchoe@cosmos.kitech.re.kr), [www.intb.org](http://www.intb.org)
- June 7-8, 2006. *International Nonwovens Symposium*, Vienna, Austria. Organiser: EDANA, Avenue Eugène Plasky, 157, B-1030 Brussels, Belgium. Contact: Tel.: +32 2 734 93 10, Fax: +32 2 733 35 18, E-mail: [info@edana.org](mailto:info@edana.org), [www.edana.org](http://www.edana.org)
- June 9, 2006, CLOTECH 2006 – 3<sup>rd</sup> Science-Technical Conference "**Directions of Development of New Sewn Textiles**", International Education Centre (IFE), Lodz, Poland. Organisers: Technical University of Lodz, Faculty of Textile Engineering and Marketing Department of Clothing Technology of Technical University of Lodz, Université de la Mode – Fashion and Industrial Design Special Studies. Contact: Secretariat: M. Kwiatkowska, M. Sc., Technical

University of Lodz Faculty of Textile Engineering and Marketing, ul. Zeromskiego 116, 90-543 Lodz, Poland, Tel.: (+ 48 42) 631 33 21, E-mail: mkwiat@p.lodz.pl

- June 12-13, 2006. **12<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2006**, Magdeburg, Germany, Contact person: Dr. Frank Pudel, ÖHMI Consulting GmbH, Managing Director, Berliner Chaussee 66, 39114 Magdeburg, Germany, Tel.: +49-391-8507-0, Fax: +49-391-8507-150, E-mail: narossa@oehmi-consulting.de. Event co-organised by Institute of Natural Fibres, Poznan, Poland
- June 18-23, 2006. **The IAF 22<sup>nd</sup> World Apparel Convention**, Thessaloniki, Greece. Organised by the International Apparel Federation (IAF) in conjunction with the Hellenic Fashion Industry Association (Thessaloniki) and the Hellenic Clothing Industry Association (Athens). Organiser contact: CLOTEFI SA - Clothing Textile and Fibre Technological Development SA, 4, Eleftheriou Venizelou Str, GR-17676 Kallithea, Athens, Greece, Tel.: +30 210 92 34 932, Fax: +30 210 92 35 603, www.iaf2006.com  
Contact: Mrs. Dora Economou, doral@skee.gr at the Hellenic Clothing Industry Association (SKEE), 51 Ermou st., GR - 105 63 Athens, Greece tel +30 210 3223979, fax +30 210 3239159.
- June 29– July 1, 2006, **Knitt-Tech 2006 Conference ‘New Techniques and Technologies in Knitting’** Ciechocinek, Poland. Organisers: Technical University of Lodz, Department of Knitting Technologies and Structure of Knitted Products, TRICOTEXTIL Institute of Knitting Technologies and Techniques. Contact: Zbigniew Mikolajczyk Ph.d.,Eng., Tel.: (48-42) 631-33-38. Malgorzata Frateczak, Tel./Fax: (0-42) 631-33-31, E-mail: katdziew@p.lodz.pl, Technical University of Lodz, Faculty of Textile Engineering and Marketing, Department of Knitting Technologies and Structure of Knitted Products, ul. Zeromskiego 116, 90-543 Lodz, Poland
- August 30 – 1 September, 2006. **5th International Conference on Sustainable Energy Technologies, Vicenza, Italy**. Conference Secretariat: Fondazione Studi Universitari di Vicenza, Stradella S. Nicola, 3, 36100 Vicenza (VI) Italy, Tel.: +39 0444 998894, Fax: +39 0444 998899, E-mail: secretariat.set2006@gest.unipd.it, Website: <http://www2.gest.unipd.it/set2006/>
- October 1-5, 2006, **THE 53<sup>th</sup> CONGRESS OF THE INTERNATIONAL FEDERATION OF KNITTING TECHNOLOGISTS ‘Knitting Today and Tomorrow’**. Plovdiv, Bulgaria, Organisers: Scientific and Technical Union of Textiles Ready-made Clothing and Leathers, The Bulgarian Section of The International Federation of Knitting Technologists, International Federation of Knitting Technologists (IFKT). Contact: Bulgaria, Sofia 1000, 108 Rakovsky Str, E-mail: congress43ifkt@mail.bg or congress43ifkt@yahoo.com  
[www.43kongresIFKT.com](http://www.43kongresIFKT.com)
- October 3-4, 2006. International Symposium **‘Nanotechnologies in textiles’ INTERNANO-TEX 2006**, Lodz, Poland. Organisers: Technical University of Lodz, Faculty of Textile Engineering and Marketing, Department of Man-made Fibres, *Polish Textile Association*. Chairman of the Organising Committee: Prof. Dr. Bogumil Laszkiewicz, Ph.D., D.Sc., Tel.: +48 42 631 3338. The scope of the conference includes themes connected with preparation, properties and applications of nanofibers, nanofibers composites and interactive nanotextiles.  
Contact: Piotr Kulpinski, Ph.D., Tel.: +48 (42) 631 33 62, E-mail: internanotex@mail.p.lodz.pl
- October 8-11, 2006. **International Textile, Clothing & Design Conference: Magic World of Textiles**, Dubrovnik, Croatia. Organisers: The Faculty of Textile Technology, University of Zagreb, Croatia. [www.itcdc.ttf.hr](http://www.itcdc.ttf.hr). For more information please contact: Prof. Zvonko Dragecivic, Ph. D., Tel.: +385 1 37 12 542, Tel./Fax: +385 1 37 12 535, E-mail: zvonko.dragecivic@ttf.hr
- October 19-20, 2006. **European Conference on Biorefinery Research**, Marina Congress Center, Helsinki. A major conference on biorefinery research organised by the European Commission with the support of the Finnish Presidency. For updated information on this event, please consult this website regularly [http://europa.eu.int/comm/research/energy/gp/gp\\_events/biorefinery/article\\_3764\\_en.htm](http://europa.eu.int/comm/research/energy/gp/gp_events/biorefinery/article_3764_en.htm) or contact the Conference Helpdesk [rtd-biorefinery-event@cec.eu.int](mailto:rtd-biorefinery-event@cec.eu.int)
- October 20, 2006. **Symposium on technical uses of flax and hemp**, Prague, Czech Republic. Organiser: CELC, 15 rue du Louvre, F-75001 Paris, France. Contact: Tel. +33 142 21 02 35, Fax: +33 142 21 48 22, E-mail: [celc.sg@wanadoo.fr](mailto:celc.sg@wanadoo.fr). The event will be held on the occasion of the CELC-congress in October 2006 in Prague.
- November 21-24, 2006. **8th Pacific RIM Bio-based Composites Symposium**. Kuala Lumpur, Malaysia. Contact: Dr. Mohd Nor Mohd Yusoff, Chairman of Technical Committee. Tel.: 603-6279 7280, Fax: 603-6280 4620, E-mail: [mdnor@frim.gov.my](mailto:mdnor@frim.gov.my), symposium website: [http://www.frim.gov.my/newsevent\\_reg2.cfm](http://www.frim.gov.my/newsevent_reg2.cfm)
- November 28<sup>th</sup> to December 1<sup>st</sup> 2006. **III Symposium on Natural Fibres, Full Use of Fibres and Textile Applications (FIBRATEX 2006)**, as a part of 13<sup>th</sup> SCIENTIFIC CONVENTION ON ENGINEERING AND

**ARCHITECTURE (CCIA 2006)**, CUJAE, Cuba, Havana, November 28<sup>th</sup> to December 1<sup>st</sup> 2006. Organizer of **FIBRATEX 2006**: El Instituto Superior Politécnico “José Antonio Echeverría” (CUJAE). Contact person: Ms. Martha Mazorra Mestre, Jefa Grupo de Tensioactivos y Emulsiones, Universidad Técnica de Energía Renovable (UTER), CUJAE. Cuba, Havana, Tel.: 537-266 3633, E-mail : marta@ceter.cujae.edu.cu, conrado@ceter.cujae.edu.cu, <http://www.cujae.edu.cu/DocumentosHTML/Vinculos/CCIA%202006.htm>

- December 7-8, 2006. **Conference on Natural Fibres: Vision 2020** organised by North India Section of Textile Institute (NISTI), New Delhi, India. Contact person: Prof. R. Chattopadhyay, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, Tel.: + 91-11-26591412 (O), +91-11-26581977 (R), Fax: +91- 11-2658-1103, E-mail: rchat@textile.iitd.ernet.in and Prof. V. K. Kothari, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, Tel.: +91-11-26591401 (O), +91-11-26591937(R), Fax: +91- 11-2658-1103, E-mail: kotharivk@gmail.com

### 2007

September 2007. **IX International Cotton Conference “Future of Cellulosic Fibres”**, Gdynia, Poland. Organisers:  
 - Technical University of Lodz, Department of Spinning Technology, Department of Clothing Technology, contact: Technical University of Lodz, Faculty of Textile Engineering and Marketing, ul. Zeromskiego 116, 90-543 Lodz, Tel.: + 48 42 631 33 35  
 - Gdynia Cotton Association, contact: Gdynia Cotton Association, ul. Derdowskiego 7, 81-369 Gdynia, tel.+48 58 620 75 98, fax +48 58 620 75 97, e-mail: [ib@gca.org.pl](mailto:ib@gca.org.pl) , [www.cotton.org.pl](http://www.cotton.org.pl)

### Fairs connected with textiles

- April 20-21, 2006. **4th Industrial Trade Fair on Microencapsulation**. Strasbourg, France. The event aims of presenting the major trends in microencapsulation technologies and markets, creating long term partnership between technology providers and end-users. Organisers: Denis Poncelet, Professor, ENITIAA, Nantes, France, Jean-Antoine Meiners, President, MCC, Colombier, Switzerland, Thierry Vandamme, Professor, ULP, Strasbourg, France, Klaus Eichler, Director, TCC & Glatt, Binzen, Germany. For more information please contact: [ITFM4@bioencapsulation.net](mailto:ITFM4@bioencapsulation.net), Tel.: +33 2 51 78 55 45, Fax: + 33 2 51 78 54 67
- July 11-14, 2006, **Hong Kong Intl Textile & Garment Machinery & Technology Fair**, Hong Kong, China. Contact: Tel.: +(852)-(852)-25165024, [www.adsale.com.hk](http://www.adsale.com.hk)
- September 13-15, 2006. **Baltic Textile + Leather**, Vilnius, Lithuania. **Contact:** LATIA. Tel.: +370 5 273 4789, Fax: +370 5 273 4787, E-mail: [latia@latia.lt](mailto:latia@latia.lt). [www.latia.lt](http://www.latia.lt)
- September 20-22, 2006. **Fachmesse COMPOSITES EUROPE 2006** , Essen, Germany
- September 5-8, 2006. **ITE - Textile Expo Uzbekistan**, Tashkent, Uzbekistan. Contact: *ITE Uzbekistan* Tel.: +998 71 113 0 180, Fax: +998 71 151 2164, E-mail: [gulnoza@ite-uzbekistan.uz](mailto:gulnoza@ite-uzbekistan.uz) <http://www.ite-uzbekistan.uz>
- October 3-6, 2006, **Textile Expo Russia 2006. 1<sup>st</sup> Russian International Textile Machinery Exhibition** Moscow, Russia
- October 17-21, 2006. **CITME 2006 (China International Textile Machinery Exhibition)**, Beijing, China. Contact: Tel.: +49 89 949 22-350, [www.imag.de](http://www.imag.de),

### 2007

- February 13-15, 2007. **Textile Trends’ – International Conference and Exhibition**, Berlin, Germany
- March 14-17, 2007, **7<sup>th</sup> AAMA-TEX 2007 (Asia Apparel Machinery & Accessories Exhibition)** Singapore Expo, Singapore. Contact: Tel.: 6743 0113, E-mail: [smtas@smtas.org.sg](mailto:smtas@smtas.org.sg)
- June 12-14, 2007, **Techtextil Frankfurt 2007**. Frankfurt am Main, Germany. Contact: Tel.: +49 69 7575 6541, [www.techtextil.com](http://www.techtextil.com)
- September 13-20, 2007. **ITMA 2007**. Munich, Germany. More information: [www.itma-munich.com](http://www.itma-munich.com)



## REPORTS ON THE EVENTS

### **The report on the FAO / ESCORENA International Conference “Textiles for sustainable development”, CSIR, Port Elizabeth, South Africa, 23-27.10. 2005.**

The event was held at the Boardwalk Conference Centre in Port Elizabeth. The conference was organized by Institute of Natural Fibres (INF) (Poznan, Poland) - the Coordination Centre of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants, the Department of Trade and Industry of Republic of South Africa (the dti), and the Council for Scientific and Industrial Research of South Africa (CSIR).

The event was attended by 151 experts from 22 countries: Brazil, Bangladesh, Canada, China, Czech Republic, Germany, Hungary, India, Iran, Italy, Northern Ireland, Nigeria, Pakistan, Poland, Portugal, Republic of South Africa, Russia, Swaziland, Sweden, Turkey, UK, and the USA. Fifty-one oral presentations and twenty posters were presented during the plenary sessions and six scientific sessions.

The Institute of Natural Fibres delivered nine oral presentations and presented eight posters in the scope of flax and hemp cultivation, extraction, harvesting and processing with special focus to novel advanced non-textile applications especially nano-cellulosic fibres (preparation, properties and directions of application) and smart cellulosic fibres and fabrics. Professor Kozłowski presented the current situation of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants and proposal for future prospects with focus on finding the new sources of financing and dimension.

The topics presented in the plenary sessions by the keynote speakers included topics such as : eco friendly natural fibre textiles for sustainable development; cottons role in sustainable textiles and textiles for performance. The balance of the programme was divided into two parallel sessions.. Session A included 27 reports which were distributed between 7 sub-sessions. The first sub-session was agronomy and primary processing; information about fibre quality of hemp grown on the Swedish island Gotland; important plant parasitic nematodes affecting fibre crops such as cotton and hemp in South Africa and “Flax Canada 2015: going beyond the status quo” were presented.

A group of authors from South Africa presented information about the adaptability of European fibre flax (*Linum usitatissimum* L.) cultivars to South African environmental conditions. The last two talks of this subdivision were devoted to performance of four European hemp cultivars cultivated under different agronomic experimental conditions in the Easter Cape Province of South Africa and application of osmotic pressure for evaluation of quality and quantity of fibre in flax and hemp.

The sub-session A2 was titled “Trends in textile metrology” which was a review on the development of rapid analytical techniques for assessing physical properties of modified linen fabric.

The sub-session A3 “Textile processing (mechanical)” included 6 reports. The first one on a new bale cutter, important stage of the bast fibre plants processing, the second, report was on geometrical and dimensional properties of knitted fabrics (the effect of spinning systems and blending ratios).

The rest were on technical innovations from bale to silver, the effect of course edge on worsted spinning performance and yarn properties, digital printing on silk fabric and textile education.

The next sub-session Functional properties of textile/smart textiles comprised of five reports: the development of multifunctional fibrous structure for technical application; information on the antibacterial cotton fibre; the influence of fabric construction, lignin content and other factors on UV blocking.

The last two reports described the comfort of flexible upholstery fire barriers and smart cellulose fibres and fabrics.

The sub-session A5 entitled “Economical aspects of textile production” included 3 reports: improved profitability through industrial upgrading of bastfibres, information about the newest achievements in curaua processing and applications – a sustainable option of Amazonian region and the works within the project “HEMP SYS: design, development and up-scaling of a sustainable production system for hemp textiles: an integrated quality systems approach. How to effect hemp fibre quality?” were presented

Only one talk was given in the sub-session entitled “Clothing comfort and health aspects of textiles” included high performance in sewing – guaranteeing seam quality through control of sewing dynamics.

The last sub-session of A session was devoted to nanotechnology in textiles. Five reports were included in this subdivision; presentation about nanotechnologies for modification and coating of fibres and textiles and the report devoted to continuous yarns from electrospun fibres. Information about nanostructured nonwovens from water soluble polymers via electrospinning, Nano-cellulosic fibres, preparation, properties and directions of application, report dedicated to decreasing flammability of polymeric materials and application of nanocomposites as flame retardants.

Session B had 9 reports which was distributed between 4 sub-sessions.

Session B1 was titled "Environmental aspects of textile production". Here 3 reports were given: Commitment to sustainable development in the textile sector, Cleaner production in textile manufacture – results of cleaner textile production project and results of activities to create an ongoing awareness and demand for textile products produces in a more environmentally responsible manner. The second sub-session was titled "Fibre, yarn and fabric properties" it included 3 reports. Information about comparison of cotton yarn strength prediction methods, Using neuro-fuzzy for prediction ring spun yarn strength from cotton fibre properties and cotton fibre quality index.

The third sub-session B3 titled "Textile processing chemical" included 6 reports. Compatibility of cotton/nylon and cotton/polyester warp-knit terry toweling with industrial laundering procedure; the information about influence of corona treatment on linen fabric dyed with natural dyestuffs; information about the effect of corona treatment on finishing processes of linen fabrics.

The last 3 reports of this sub-session were devoted to the development of a new vat dyeing process for cellulose materials pre-treated with corona, liquid ammonia treatment of linen and cotton/linen fabrics, and comparison of the alkaline hydrolysis of poly (trimethylene terephthalate) and poly(ethylene terephthalate). The last B sub-session, entitled "Application, Development" included 7 reports. Group of contributors gave presentation about development of hemp fibre reinforced polypropylene composite; fibrillation of natural fibres – increasing the specific surface for high performance composites. Information about biodegradable/compostable composites from ligno-cellulosic fibres was described as well.

The last 4 reports were dealing with surface modification of polyester fibres, biodegradable wipes made by hydroentanglement bonding technique, raw materials based on linseed oils for polyurethane synthesis, and tensile properties of composites made of polyester and PALF (pine apple leaf fibre).

The poster sessions included 12 reports. Polymer application in laundering content bleaching agent for wash fastness improvement of dyed fabrics bi-functional reactive dyes; design to save our environment; South Africa perspective in hemp (*Cannabis sativa* L.) as fibre crop; identification and development of indigenous fibre plant species for small-scale farmers; preparation of enzymatically modified flax fibre to production of rotor-spoon yarn for apparel; biopreparation of fabrics from bast fibres; fit assessment of slopers for women with bottom heavy figures; embellishment of Madhubani designs with Indian traditional embroideries; breeding and cultivation of fibre flax in sustainable agriculture; prevention against mildew growth in natural fibres; phenotypic variation for functional characteristics of some fibre flax cultivars; new self-propelled harvester for fibrous hemp; enhancing beauty of Rajasthai prints (Sanganer and Bagru) with different techniques; enabling smallholder farmers to produce cotton using non-GMO (Bt) cotton varieties; blending yarns with high content of flax, obtained by pneumomechanical spinning; application of fibrous plants to the bioremediation of industry-contaminated soil; flax cultivars resistant to *Fusarium wilt* from the collection of the Institute of Natural Fibres (Poland); trends in flax and linseed varieties development in the Czech Republic and another problems were discussed in poster sessions.

Prof. Dr. Ryszard Kozłowski and Dr. Rajesh Anandjiwala took part in the closing ceremony of conference. All speakers who took a part in closing ceremony spoke about the success of this conference.

The world production of fibres for today is about 30 million tonnes. It is a significant amount and any kind of improvement of fibre properties as well as fabrics is a very important economical task with a clear sustainability aspect. So, any kind of pure and applied research in these areas is useful, fruitful and economically important.

The participants of this conference decided to organize the same kind of conference in the near future (in two or three years).

The proceeding of conference will be published as a volume by Nova Science Publishers, Inc. (Hauppauge, New York, USA) in 2006. The Editors of this volume will be Dr. Rajesh Anandjiwala, Prof. Ryszard Kozłowski and Prof. Gennady E. Zaikov.

The delegates visited the new enterprise – COEGA: Deepwater Port and Duty-free Industrial Development Zone in Port Elizabeth, whose aim is enlarging production of novel, advanced products e.g. flame-retardant fabrics.

Prepared by: Prof. Dr. Gennady Zaikov, N. M. Emanuel Institute of Biochemical Physics, Russian Academy of Science, Moscow, Russia, E-mail: chembio@sky.chph.ras.ru and Eng. Maria Mackiewicz-Talarczyk, Network Secretary



## STATISTICAL DATA ON FLAX

## FIBROUS FLAX IN THE WORLD

## FIBROUS FLAX CULTIVATED AREA IN THE WORLD [ha]

	1999	2000	2001	2002	2003	2004	2005 Est.
AUSTRIA	350 <sup>1/</sup>	450 <sup>1/</sup>	132 <sup>1/</sup>	171 <sup>6/</sup>	142 <sup>5/</sup>	109 <sup>6/</sup>	134 <sup>1/</sup>
BELARUS	70 000 <sup>2/</sup>	81 800	70 000 <sup>9</sup>	67 900	70 900	79 000	78 500
BELGIUM	12 176 <sup>1/</sup>	13 355 <sup>3/</sup>	16 990 <sup>3/</sup>	15 567 <sup>5/</sup>	19 250 <sup>5/</sup>	19 823 <sup>1/</sup>	18 760 <sup>1/</sup>
BULGARIA	58 <sup>2/</sup>	300	210	470	150 <sup>9</sup>	70	
CHINA	101 000 <sup>2/</sup>	100 000 <sup>6/</sup> °	100 000 <sup>6/</sup>	80 000 <sup>6/</sup>	133 000 <sup>6/</sup>	200 000 <sup>6/</sup> 130 000 <sup>7/</sup>	130 000
CZECH REPUBLIC	6348	6 302- linseed; 2240-fibre flax	7 095	5 885	6 003	5 500	4 318 <sup>1/</sup>
DENMARK	11 <sup>1/</sup>	45 <sup>1/</sup>	19 <sup>1/</sup>	0 <sup>1/</sup>	0 <sup>1/</sup>	°/	°/
EGYPT	3 248 <sup>9/</sup>	3 994 <sup>9/</sup>	7 649 <sup>9/</sup>	8 936 <sup>9/</sup>	13 010 <sup>9/</sup>	17 138 <sup>9/</sup>	5 847 <sup>9/</sup>
ESTONIA	115	137	89	35	17	0	Fibrous Flax 0, Linseed 91ha
FINLAND	850	1 067 <sup>1/</sup>	365 <sup>6/</sup>	202 <sup>5/</sup>	97 <sup>5/</sup>	67 <sup>5/</sup>	°/
FRANCE	49 129 <sup>1/</sup>	55 629 <sup>3/</sup>	67 970 <sup>3/</sup>	68 416 <sup>1/</sup>	76 439 <sup>3/</sup> x	80 081 <sup>1/</sup>	81 508 <sup>1/</sup>
GERMANY	570 <sup>1/</sup>	402 <sup>1/</sup>	200 <sup>1/</sup>	200 <sup>6/</sup>	224 <sup>6/</sup>	180 <sup>6/</sup>	38 <sup>1/</sup>
IRELAND	°/	°/	0 <sup>3/</sup>	°/	°/	°/	°/
ITALY	°/	°/	1 <sup>3/</sup>	0 <sup>5/</sup>	20 <sup>5/</sup>	80	°/
LATVIA	2 000 <sup>2/</sup>	300-linseed; 1600-fibre flax	°/	°/	°/	1 654 <sup>6/</sup>	1 654 <sup>1/</sup>
LITHUANIA	8 600	8 600	9 600	9 346	10 000	5 494	4 300 <sup>1/</sup>
NETHERLANDS	3 570 <sup>1/</sup>	4 016 <sup>1/</sup>	4 415 <sup>1/</sup>	4 000 <sup>5/</sup>	4615 <sup>5/</sup>	4517 <sup>1/</sup>	4 691 <sup>1/</sup>
POLAND	1 223 <sup>4/</sup>	5 093 <sup>4/</sup>	4 520 <sup>4/</sup>	5 100 <sup>4/</sup>	6 000 <sup>4/</sup>	6 345 <sup>4/</sup> (fibre flax: 5 745, linseed 600 ha)	est. 6 823 <sup>4/</sup> (fibrous flax: 6 000)
PORTUGAL	4 678 <sup>1/</sup>	3 522 <sup>3/</sup>	0 <sup>3/</sup>	0 <sup>1/</sup>	°/	°/	°/
RUMANIA	°/	2 000 <sup>6/</sup>	300 <sup>6/</sup>	300 <sup>6/</sup>	°/	°/	°/
RUSSIA	104 050	107 610	127 340 127 361 <sup>6/</sup>	110 820 100 000 <sup>6/</sup>	118 060 104 000 <sup>6/</sup>	112 300	95 450
SPAIN	122 400 <sup>1/</sup>	13 595 <sup>3/</sup>	342 <sup>1/</sup>	60 <sup>5/</sup>	2 <sup>5/</sup>	°/	°/
SWEDEN	1 327 <sup>1/</sup>	21 <sup>1/</sup>	32 <sup>3/</sup>	25 <sup>1/</sup>	0 <sup>1/</sup>	30 <sup>1/</sup>	°/
UKRAINE	21 900 <sup>2/</sup>	19 300	28 280	28 200	32 480 <sup>8/</sup>	38 220 <sup>8/</sup>	25 530 <sup>8/</sup>
UNITED KINGDOM	14 000 <sup>1/</sup>	11 816 <sup>3/</sup>	4 430 <sup>1/</sup>	156 <sup>5/</sup>	175 <sup>5/</sup>	1820 <sup>1/</sup>	°/

Total flax cultivated area in EU countries: in 2000 103 867<sup>3/</sup> ha, in 2001 94 631<sup>3/</sup>ha, in 2002 : 88 885<sup>1/</sup>ha, in 2003: 98 965<sup>1/</sup>ha.

**Source:** Generally, data provided by relevant countries' official organizations (see also the country data). Those data are not marked. Another source of information is described below:

<sup>1/</sup> A. Daenekindt: Algemeen Belgisch Vlasverbond, Oude Vestingsstraat 15, B-8500 Kortrijk, Belgium, e-mail: albert.daenekindt@vlasverbond.be

<sup>2/</sup> FAOSTAT Statistical Database Results 1997 <http://apps.fao.org>

<sup>3/</sup> Mr. Jordi Petchamé Ballabriga, Administrateur, Olives, huile d'olive et plantes textiles, D.G. VI.C.4 - Loi 130 7/126, European Commission, Rue de la Loi 200, B-1049, Bruxelles, Belgium

<sup>4/</sup> Polish Chamber of Flax and Hemp, office at the Institute of Natural Fibres, Poznan, Poland, t.: +48-61 8 455 851, f.: +48 61 8 417 830, [hempflax@inf.poznan.pl](mailto:hempflax@inf.poznan.pl)

<sup>5/</sup> 54<sup>ème</sup> Congrès CELC – Berlin, Réunion d'information Générale / Section commune Culture-Teillage

<sup>6/</sup> CELC/MASTERS OF LINEN, 15, rue du Louvre, 75001 Paris, France, t.: +33(0)1 42 21 06 83, f.: +33(0)1 42 21 48 22, e-mail : [info@mastersoflinen.com](mailto:info@mastersoflinen.com)

<sup>7/</sup> data from the Research Institute of Industrial Crops, Heilong Academy of Agricultural Sciences, Harbin, China, 150086

<sup>8/</sup> Dr Pavel Goloborod'ko, Institute of Bast Crops, Lenina 45, 245130 Glukhov, Sumy, Ukraine, t/f: 3805444 22643

<sup>9/</sup> Prof. Dr. D. M. El-Hariri, The Network Representative in the Near East, NRC, Cairo, Egypt, e-mail: [profelhariri@netscape.net](mailto:profelhariri@netscape.net); acc. to Agricultural Economics Bulletins of the Central Administration for Agricultural Economics and Statistics of Egypt.

note : in all tables the mark °/ means data not available

**LINEN MARKET/PRICES IN THE EU**

Prices of main products and by-products of flax in Belgium (similar as in other countries of the EU)

Source: VLAS Berichten, the newspaper of the Algemeen Belgisch Vlasverbond, Oude Vestingsstraat 15, 8500 Kortrijk, Belgium, Director; Mr. Albert Daenekindt. The subscription of this newspaper can be ordered at the above address. Contact: fax: + 32/56/22 79 30, e-mail: albert.daenekindt@vlasverbond.be.

**Scutched flax**

Water-retted		Dew-retted	
long fibre			
Quality	Prices EURO/100kg	Quality	Prices EURO/100kg
lower quality	up to 148.75	lower quality	up to 123.95
medium quality	148.76 - 173.50	medium quality	123.96 - 148.75
better quality	173.51 - 185.90	better quality	148.76 - 173.50
very good quality	bonus	very good quality	from 173.50
short fibre			
lower quality up to 9.90 EURO/100kg			
medium quality 9.91 - 14.85 EURO/100kg			
better quality from 14.85 EURO/100kg			
-----			
by-products			
<ul style="list-style-type: none"> <li>• wasted parts of the straw; dew retted price: up to 3.10 EURO/100kg</li> <li>• wasted parts of the straw price: up to 4.0 EURO/100kg</li> <li>• by-products from deseeding price: 2.48 EURO/100kg</li> <li>• short scutched fibre wastes: from 10.00 EURO/100kg</li> <li>• shives used for particleboard production: from 2.50 EURO/100 kg</li> </ul>			

**EUROPEAN SUBSIDY FOR THE CULTIVATION OF FLAX AND HEMP**

Submitted by Dir. A. Daenekindt: *Algemeen Belgisch Vlasverbond, Oude Vestingsstraat 15, B-8500 Kortrijk, Belgium 1999*

*Idem 1998 and 1997, with the exception that the amounts are no longer in terms of Ecu but Euro.*

Subsidy per hectare (gross = net): 815,86 Euro (25 percent farmer/75 percent scutcher).

2000

Subsidy per hectare (gross = net): 795,46 Euro (25 percent farmer/75 percent scutcher).

2001

With the crop 2001 started a new and completely modified Common Organization of the Markets in flax and hemp, containing a subsidy for the grower and a subsidy for the primary processor of the flax straw.

**1. Grower**

Flax and hemp are included in the subsidy system for some arable crops (including the obligation to lay fallow 10 percent of the arable crops area). Subsidy 2001 (basis) for fibre flax and hemp: 75,63 euro/ton. This amount has to be multiplied by the "historic yield for cereals" that has been fixed for each agricultural region. Belgium, for instance, has 13 different agricultural regions, and the subsidy amount for flax fluctuated between 509 and 275 euro per hectare.

**2. Primary processor (scutcher)**

A subsidy is given to the primary processor for the quantity of fibres that is produced:

- 100 euro per ton for long flax fibres;
- 90 euro per ton for short flax fibres and hemp fibres.

**3. Additional subsidy**

In some regions (Netherlands, Belgium and North of France) an additional subsidy is assigned to the fibre producer:

- for northern regions: 120 euro per hectare;
- in southern regions: 50 euro per hectare.

2002

The same system as for the crop 2001, but change of some subsidy amounts.

1. Grower: basis subsidy 63 euro/ton (instead of 75,63 euro);

2. Processor (scutcher):

- 160 euro per tonne for long flax fibres;

– 90 euro per tonne for short flax fibres and hemp fibres.

3. Additional subsidy (NL/B/F)

– for northern regions: 120 euro per hectare;

– in southern regions: 50 euro per hectare.

#### 2003 and 2004

Same system and amounts as for the crop 2002.

1. Grower: basis subsidy 63 euro/tonne;

2. Processor (scutcher):

– 160 euro per tonne for long flax fibres;

– 90 euro per tonne for short flax fibres and hemp fibres.

3. Additional subsidy (NL/B/F)

– for northern regions: 120 euro per hectare;

– in southern regions: 50 euro per hectare.

#### 2005

1. Grower

In Belgium, the latest reform of the common agricultural policy - commonly known as the Mid Term Review (MTR) - was implemented already in 2005. France and the Netherlands postponed the implementation until 2006.

The key word of MTR is decoupling. Most of the subsidies the farmer used to receive as direct aid are replaced by a single payment. In order to receive this payment, the farmer has to activate the entitlements he has been assigned, not necessarily by growing a specific crop (decoupling). It is sufficient to keep the soil in a good agricultural condition.

Since the entitlements to the single payment are calculated on the basis of the number of hectares/animals declared during the reference years 2000, 2001 and 2002, their number and amount differ from one farm to another.

2. Primary processor (scutcher)

Same system and amount as for the previous crops:

2.1. production subsidy:

- 160 euro per tonne for long flax fibres;

- 90 euro per tonne for short flax fibres and hemp fibres.

2.2. additional subsidy (Netherlands, Belgium and some regions in the North of France)

- for northern regions: 120 euro per hectare;

- for southern regions: 50 euro per hectare.

#### 2006

1. Grower

idem crop 2005

2. Primary processor

Not clear for the moment (December 2005). The European Commission is evaluating the common organisation of the markets in flax and hemp grown for the fibre, including the processing aid.

## COUNTRY DATA ON FIBRE FLAX.

The possessed data regarding acreage of cultivated flax is provided in the general table: FLAX CULTIVATED AREA IN THE WORLD [ha]. We will try to up-date the other data in the next issues of the Newsletter. In this issue we are providing only the set of country data, which are complete and up-dated.

## BELARUS

	1999	2000 <sup>1/</sup>	2001	2002	2003	2004	2005
Cultivated area [ha]							
Belarussian data	70 000 <sup>1/</sup>	81 800 <sup>1/</sup>		67 900 <sup>2/</sup>	70 900 <sup>2/</sup>	79 000 <sup>2/</sup>	78 500
MASTERS OF LINEN data		81 800 <sup>3/</sup>	70 000 <sup>3/</sup>	40 000 <sup>3/</sup>	60 000 <sup>3/</sup>	79 146 <sup>3/</sup>	

sent by: <sup>1/</sup> I.J. Jarmolovitch, Ministry of Statistics and Analysis of RB, Minsk, Belarus (2000)

<sup>2/</sup> "Agriculture of the Republic of Belarus". The Assemblage of Statistical Office UP MINSTAT, Minsk, Belarus (data collected and sent by Dr A. A. Lopatnyuk, Ms. L. A. Tinjakova, The Institute of Agrarian Economics, Minsk, Belarus, E-mail: agreconst@mail.belpak.by)

<sup>3/</sup> CELC/MASTERS OF LINEN, 15, rue du Louvre, 75001 Paris, France, tel. +33(0)1 42 21 06 83, fax +33(0)1 42 21 48 22, E-mail : info@mastersoflinen.com

## BULGARIA

	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	58	300	210	470	150	70

sent by: Dr. A. Balabanova, AgroBioInstitute, 2232 Kostinbrod-2, Bulgaria

## CZECH REPUBLIC

	1998	1999	2000	2001	2002	2003	2004	2005
Cultivated area [ha]	4117	5348	6302	7 124	5885	6003	5499	4 690*
Harvested [ha]	3719	5232	5911	7 124	5825	5953	5 499	
Straw yield [t/ha]	3.01	3.34	2,36	3,23	2,73	2,32	3,6	
Long fibre yield [t/ha]	0.3	0,39	0,35	0,24	0,35	0,32	0,53	
Long fibre production [t]	1235	2098	2235	1591	2100	1884	2 930	
Short fibre yield [t/ha]	0.5	0,53	0,42	0,44	0,42	0,32	0,51	
Short fibre production [t]	1835	2797	2661	3141	2 570	1928	2 850	
Percentage of dew retting [percent]	100	100	100	100	100	100	100	
Mill consumption of flax [t]	11200	17484	16811	18526	17 508	15 161	13 150	
Linseed yield [t/ha]*of fibre flax	0.51	0.56	0,50	0,5	0,5	0,5	0,5	
Yarn production [t] (wet + dry spinning)	3850	4835	5301	4300	4150	3894	4020	
Production of textiles [1000 m]	12160	*	*	*	*	*	*	
Particleboards production [m <sup>2</sup> ]		0	0	0	0	0	0	
Export of seed [t]	730	1340	3421	2526	2187	4 136	3 257	
Export of yarn [t]	1202	1364	1839	1430	1531	2 088	2 029	
Export of fibre [t]	100	90	267	207	226	89	36	
Export of linen textiles (fabrics) [1000 m]	°	*	*	*	*	*	*	
Export of cloth (more than 85 percent linen) [t]	1830	2138	2470	1996	1854	1 777	1906	
Export of cloth (less than 85 percent linen) [t]	180	184	264	183	190	176	150	
Import of fibre [t]	2248	2925	3001	3169	3457	2 603	2 960	
Import of yarn [t]	79	349	456	279	202	358	563	
Import of textiles [1000 m]	°	*	*	*	*	*	*	
Import of seed [t]	771	561	449	356	376	527	341	
Import of linen cloth (more than 85 percent linen) [t]	16	512	609	514	568	353	306	
Import of linen cloth (less than 85 percent linen)[t]	28	76	103	78	84	74	184	

Source: H. Suchomelová, P. Šmirous, S. Krmela, ATOK Praha, Flax Union CR, Šumperk-Temenice, Czech Republic

## Linseed (flaxseed) in Czech Republic

Czech Republic	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cultivated area [ha]	600	646	2 251	1 700	3 280	2 548	5 345	2 154	3000*

## ESTONIA

## Fibre Flax

	1997	1999	2000	2001	2002	2003	2004	2005
Cultivated area [ha]	323	115	137	89	35 <sup>1)</sup>	17	0	Fibrous Flax 0, Linseed 91ha
Straw yield [t/ha]	0,198	0,513	0,577	1,180	1,971	0	0	0
Long fibre yield [t/ha]								
Long fibre production [t]								
Short fibre yield [t/ha]								
Short fibre production [t]								
Percentage of dew retting [percent]								
Mill consumption of flax [t]								
Linseed yield [t/ha]	0,303	0,513	0,831	0,931	0,916	0,532	0,831 <sup>1)</sup>	1,257
Yarn production [t] (wet + dry spinning)								
Production of textiles [1000 m)x]	10	3910	7058	9376	...	...	...	
Particleboards production [m <sup>2</sup> ]								
Export of seed [t]xx)	0	0	0	0	0	0	0	
Export of yarn [t]	79	334	1189	807	896	1266	1200	
Export of fibre [t]	44	17	49	125	223	49	90	
Export of linen textiles (fabrics) [1000 m]								
Export of cloth [1000 m <sup>2</sup> ]	6	4053	6730	9084	8653	8206	7535	
Import of fibre [t]	154	1486	2822	3021	2440	2553	2607	
Import of yarn [t]	12	179	222	98	518	477	495 <sup>1)</sup>	

Source: VORU FLAX-MILL and CENTRAL UNION OF ESTONIAN FLAX, Voru, Estonia (1993-1995) and Mr. Einar Kikkas, Department of Agriculture, Ministry of agriculture, Tallinn, Estonia

<sup>1)</sup> data for the previous years are revised; \*\*) data on export, import are presented by the special trade system; ... data not available - magnitude nil

SOE presents the data of the flax production from 1993 to 2002 in Estonia. Until 1999 fibre flax was planted. Since 2000 oil flax and fibre flax were planted. Data of oil flax sown area and yield are not included in this table. Stalks yields are estimated on the basis of the production (the quantities) and sown area; At present data of long fibre and shot fibre production are not available, but external trade covers these products from 1995. Production of textiles are evaluated in square metre in Estonia. X) data are confidential, XX) included seeds of oil and fibre flax.

## FINLAND

	1998	1999	2000	2001	2002	2003	2004
Flax cultivated area [ha]	613	850	1067	365	202	97	67

sent by: Juha Pirkkamaa, Agropolis Ltd, Agropolis-Engineering, Jokioinen, Finland

## LATVIA

	2000	2001	2002	2003	2004	2005
Flax cultivated area [ha]	1 600	0	0	0	1 654	

Source: U. Apels, Department of Information, Ministry of Agriculture of the Republic of Latvia, Republic Sq. 2, Riga, LV-1981,

## LITHUANIA

	1999 <sup>**/</sup>	2000 <sup>**/</sup>	2001	2002	2003	2004	2005
Fibre Flax Cultivated area [ha]	8 600	8 600	9600	9346	9444 plus 200 ha linseed	5600 plus 200 ha linseed	3800ha fibre flax, 500ha of linseed. Total 4300ha*

Source: <sup>\*\*/</sup> O. Juknevičienė, Minist. of Agricul., Dep. of Strategy of Plant Production, Prospekt Gedimino 19, Vilnius, Lithuania; completed by Dr. Director Algimantas Endriukaitis, LIA – The Lithuanian Institute

of Agriculture Upyte Research Station, Linininku 3, Upyte, 38 294 Panevezys Distr., LITHUANIA; \*Crops". 2005 (ISSN 1648-0198) - statistical bulletin of Statistikos departamentas / Statistics Lithuania, published in Vilnius, Lithuania in 2005. <sup>\*/</sup> calculated data

## POLAND

	1999	2000	2001	2002	2003	2004	2005 Est.
Cultivated area [ha]	1223	5100	4900	5200	3000	6345 fibre flax and 600 linseed	6823 ( 6000 flax & 800 linseed)
Straw production [thous.t]		11.7	10.8	11.5	7.8	27	33
Straw yield [t/ha]		2.75	2.56	3.10	2.53	4.25	5,5
Long fibre yield [dt/ha]	3.7	4.5	3.5	2.9	2.8	8.0	7,2
Short fibre yield [dt/ha]		3.1	3.3	5.2	4.1	3.5	4,6
Total fibre production [thous.t]		3.2	2.9	3.1	2.2	7.5	7,4
Long fibre production [dt]	7664	8777	10454	10780	23200	5000	4300
Short fibre production [dt]	3832	4388	5226	5390	11600	3500	2700
Percentage of dew retting [ percent]	100	100	100	100	100	100	100
Mill consumption of flax [t]	1882	2321 <sup>o</sup>	<sup>o</sup> 6123	6880	6760		
Seed yield [t/ha]	0.6	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	0.4	0.6-0.7	
Yarn production [t] (wet + dry spinning)	889	1362 <sup>o</sup>	<sup>o</sup> 5950	6669	7400		
Production of textiles [1000 m]	4607	4563 <sup>o</sup>	3953 <sup>o</sup>	4380	4500		
Flax/Hemp Export of seed [t]	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	39/1		
Flax/Hemp Export of yarn [t]	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	3800/2		
Flax/Hemp Export of fibre [t]	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	820/12		
Export of linen textiles (fabrics) [1000 m]	4480	3241 <sup>o</sup>	<sup>o</sup> 2371	<sup>o</sup> 2550	3100		
Export of linen fibre [t]							1355,990 <sup>1)</sup>
Flax Export of yarn [t]							2678,136 <sup>1)</sup>
Flax Import of fibre [t]	803	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	3790/24		3480,610 <sup>1)</sup>
Flax Import of yarn [t]	345	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	840/1		857,622 <sup>1)</sup>
Import of fabrics [1000 m]	0	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	867		528,495 <sup>1)</sup>
Import of seed [t]	0	<sup>o</sup>	<sup>o</sup>	<sup>o</sup>	3967/319		

Source: H. Smarzyński, Polish Flax Foundation, Institute of Natural Fibres, Poznan, Poland (to 1999)

<sup>1)</sup> estimated data; <sup>2,3)</sup> in 1000m<sup>2</sup>; <sup>1)</sup> includes rural fibre produced in 1997 and 98. Data from 2000-2003 by Polish Chamber of Flax and Hemp. 2004-official data of the Agencja Restrukturyzacji i Modernizacji Rolnictwa (ARMIR)

## RUSSIA

	1998	1999	2000	2001	2002	2003	2004	2005
Cultivated area [ha]	107340	104050	107610	127340	110820	118060	112300	95450 <sup>1)</sup>
Straw yield [t/ha]	1.98	1.62	2.43	2.24	2.09	2.85	2.46	2.64 <sup>1)</sup>
Long fibre yield [t/ha]	0.43	0.36	0.55	0.5	0.47	0.66	0.58	0.63 <sup>1)</sup>
Long fibre production [t]	33540	23700	51170	58000	37730	55290	57790	56290 <sup>1)</sup>
Short fibre yield [t/ha]								
Short fibre production [t]								
Percentage of dew retting [ percent]								
Mill consumption of flax [t]								
Seed yield [t/ha]	0.15	0.20	0.21	0.21	0.20	0.18	0.17	0.16 <sup>1)</sup>
Yarn production [t] (wet + dry spinning) single -thread yarn <sup>2)</sup>	17093	20108	19806	22012	23189	25067	26088	19176
Production of textiles [mln m <sup>2</sup> ] <sup>3)</sup>	68,8	90,4	113	125	143	157	159	122

Source: Alexander Goncharov, Deputy Director, Department for Public and International Relations, Federal Service of State Statistics of the Russian Federation, Moscow, Russia

<sup>1)</sup>for 1ha harvested area; <sup>2)</sup>data for long fibred flax; <sup>3)</sup>unifilar linen yarn; <sup>4)</sup>linen textiles finished; <sup>5)</sup> data for year 2005 are preliminary.

## UKRAINE

	1999	2000	2001	2002	2003	2004	2005
Cultivated area [ha]	21 900 <sup>1)</sup>	1930 <sup>1)</sup>	28280 <sup>1)</sup>	28200 <sup>1)</sup>	32480 <sup>2)</sup>	38220 <sup>2)</sup>	25530 <sup>2)</sup>

Source: <sup>1)</sup>Prof. Dr. :I. Karpets, Agriculture Institute of Ukrainian Academy of Agrarian Sciences, Chabany, Ukraine,

<sup>2)</sup>Dr. Pavel Goloborod'ko, Institute of Bast Crops, Lenina 45, 245130 Glukhov, Sumy, Ukraine, Tel.: /Fax: 3805444 22643, E-mail: ibc@sm.ukrtel.net



## STATISTICAL DATA ON INDUSTRIAL HEMP

## HEMP HARVESTED AREA IN EUROPEAN UNION COUNTRIES AND SOME OTHER COUNTRIES

COUNTRY OF EU	1997 <sup>1)</sup>	1998 <sup>1)</sup>	1999 <sup>1)</sup>	2000/2001 <sup>2)</sup>	2002 <sup>1)</sup>	2004 <sup>3)</sup>	2005 <sup>4)</sup> est.
Austria	938	974	289	287	277	399	353
Belgium		0	1	0	0		6
Czech Republic						150	159
Denmark		26	23	7	0	40	
Finland	53	1218	93	59	0	7	
France	10980	9682	9515	7700	7729	8800	9600
Germany	2766	3553	3993	2967	2035	1730	2005
Italy	0	255	197	151	300	885	
Ireland	23	28	22	6	0		
Latvia							6
Luxembourg	13	13	0	0	0		
Netherlands	1322	1055	872	806	2100	27	49
Portugal		770	185	4	0		
Spain	4828	19860	13473	6103	691	654	700
Sweden				0	0	141	368
UK	2293	2556	1517	2245	1413	1658	3000
Switzerland	200	250	250	250 <sup>1*)</sup>			
Total area in EU	23216	39990	30179	20404 <sup>2)</sup>	14584 <sup>2)</sup>		
Poland –data by CSO (Central Statistical Office of Poland)	300	78	100	111	83 In 2003– 101 ha <sup>3)</sup>	910	216
Ukraine					970 <sup>5)</sup>	1 510 <sup>5)</sup>	1 940 <sup>5)</sup>
Hungary						500	

Source: <sup>1)</sup> Michael Dr. Karus, nova –Institut für politische und ökologische Innovation, Nachwachsende Rohstoffe, Thielstr. 35, 50354 Hürth Germany

<sup>2)</sup> Mr. Jordi Petchamé Ballabriga, Administrateur, Olives, huile d'olive et plantes textiles, D.G. VI.C.4 - Loi 130 7/126, European Commission, Rue de la Loi 200, B- 1049, Bruxelles, Belgium

<sup>3)</sup> *LEN I KONOPIE. (FLAX AND HEMP)* No 4. 2005. pp. 2-10. The Bulletin of the Polish Chamber of Flax and Hemp, office at the Institute of Natural Fibres, Poznan, Poland, Ph. : +48-61 8 455 851, fax : +48 61 8 417 830, e-mail: hempflax@inf.poznan.pl

<sup>4)</sup> Polish Chamber of Flax and Hemp, office at the Institute of Natural Fibres, Poznan, Poland, Ph. : +48-61 8 455 851, fax : +48 61 8 417 830, e-mail: hempflax@inf.poznan.pl

<sup>5)</sup> Dr. Pavel Goloborod'ko, Institute of Bast Crops, Lenina 45, 245130 Glukhov, Sumy, Ukraine, Tel.: /Fax: 3805444 22643, E-mail: ibc@sm.ukrtel.net

## PRODUCTION OF FLAX AND HEMP FIBRE IN EU COUNTRIES IN THE CAMPAIGN 2004/2005

Country	Long flax fibre [tons]	Short flax fibre [tons]	Hemp fibre [tons]
Belgium	19 029	11 893	-
Czech Rep.	2 930	3 550	-
Germany	112	116	2 358
Spain	-	-	1 570
France	105 000	75 000	14 000
Italy	-	128	424
Lithuania	317	753	-
Latvia	2 553	3 795	-
Hungary	-	-	944
The Netherlands	4 516	3 333	81
Austria	82	136	446
Poland	151	120	146
Finland	-	100	8
UK	-	121	1 583

Source: data of the Management Committee for Natural Fibres of the EC

**FUTURE PLANS**

2006

- June 12-13, 2006. **12<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2006**, Magdeburg, Germany, Contact person: Dr. Frank Pudiel, ÖHMI Consulting GmbH, Managing Director, Berliner Chaussee 66, 39114 Magdeburg, Germany, Phone: +49-391-8507-0, Fax: +49-391-8507-150, E-mail: narossa@oehmi-consulting.de
- November 28<sup>th</sup> to December 1<sup>st</sup> 2006. **III Symposium on Natural Fibres, Full Use of Fibres and Textile Applications (FIBRATEX 2006), as a part of 13<sup>th</sup> SCIENTIFIC CONVENTION ON ENGINEERING AND ARCHITECTURE (CCIA 2006)**, CUJAE, Cuba, Havana, November 28<sup>th</sup> to December 1<sup>st</sup> 2006. Organizer of **FIBRATEX 2006**: El Instituto Superior Politécnico “José Antonio Echeverría” (CUJAE). Contact person: Ms. Martha Mazorra Mestre, Jefa Grupo de Tensioactivos y Emulsiones, Universidad Técnica de Energía Renovable (UTER), CUJAE, Cuba, Havana, tel.: 537-266 3633, e-mail: marta@ceter.cujae.edu.cu, conrado@ceter.cujae.edu.cu, [http://www.cujae.edu.cu/DocumentosHTML/Vinculos/CCIA\\_percent202006.htm](http://www.cujae.edu.cu/DocumentosHTML/Vinculos/CCIA_percent202006.htm)
- December 7-8, 2006. **Conference on Natural Fibres: Vision 2020** organised by North India Section of Textile Institute (NISTI), New Delhi, India. Contact person: Prof. R. Chattopadhyay, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, tel : 91-11-26591412 (O), 91-11-26581977 (R), fax: - 91-11-2658-1103, e-mail: rchat@textile.iitd.ac.in and Prof. V. K. Kothari, Department of Textile Technology, Indian Institute of Technology, New Delhi -110016, India, e-mail: kothari@textile.iitd.ac.in

**Future endeavours:** Efforts towards creation of the e.g. European Platform for Natural Fibres or co-operate with another technology platforms, Contributing to the organization by FAO the International Year of Natural Fibres, Searching for projects - to support financially the Network activities.

**REMINDER**

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**Attention**

It is possible to order a translation of selected parts (contributions) of each EUROFLAX Newsletter's issue in French, Polish or Russian for which a charge is made. Send orders to the Coordination Centre of the Network in Poznan.

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Web page of FAO/SCORENA system: [http://www.fao.org/world/Regional/REU/Content/Scorena/index\\_en.htm](http://www.fao.org/world/Regional/REU/Content/Scorena/index_en.htm) and

<http://www.inf.poznan.pl/english.php?item=030101>

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