



Institute of Natural Fibres  
Coordination Centre  
of the FAO Network  
on Flax and Other Bast Plants

# EUROFLOX NEWSLETTER

***Information Bulletin of the FAO  
European Cooperative  
Research Network on  
Flax and Other Bast Plants***

---

ISSN 1429-8090

No. 1 (21), June, 2004

---

Newsletter Editor – **Prof. Dr. Ryszard Kozłowski**

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

**Coordination Centre of the FAO European Cooperative Research Network on Flax and other Bast Plants –**

Institute of Natural Fibres, ul. Wojska Polskiego 71 b, 60-630 Poznań, POLAND

Tel: (48) 61 8480 061, Fax: (48) 61 8417 830,

e-mail: [netflax@inf.poznan.pl](mailto:netflax@inf.poznan.pl);

<http://www.inf.poznan.pl>

Prepared by: Ryszard Kozłowski and Maria Mackiewicz-Talarczyk

Corrected by: Blair Prochnov

Desktop Publishing and Printing: INF's Scientific Information Centre

***CLAUSES PRINTED ON REQUEST OF THE FAO/ROME AUTHORITIES***

*The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.*

*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.*

Dear Readers,

Let me turn your attention to the next Global Workshop of the Network, which will be held on October 24-28, 2004 in Banja Luka - Bosnia and Herzegovina, Republic of Srpska. Please, read the 3rd circular in this issue and feel welcome to register! We are convinced that the conference and related projects will help the revival of textile industry related to bast plants, not only in Bosnia and Herzegovina but also in all countries of former Yugoslavia. We do want to contribute to the recovery of post war Balkan region.

We would like to express our sincere thanks to HAWORTH Press Inc., New York, USA — the publisher of the "Journal of Natural Fibers", for sponsoring this Global Workshop.

Please, pay attention to our correspondence with the European Commission, which reflects our endeavours aimed at finding the new sources of financial support for Network activities (see below). Our letter to Mr. Busquin/EC in the chapter: **ACTIVITIES OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS**).

I confirm good news for future events: the representatives of NATIONAL FIBRE, TEXTILE AND CLOTHING CENTRE (NFTCC), CSIR Manufacturing & Materials Technology, Port Elizabeth, South Africa, confirmed officially the proposal of hosting the next international conference of our Network by CSIR in South Africa, probably in October 2005.

Finally and last but not least, let us welcome Ukraine, the country that has recently become the member of Food and Agriculture Organization of the United Nations in Rome, Italy! We do hope that all our Network members with full satisfaction welcome Ukraine and its representation in our Network. Ukraine – may you grow and may your flax grow well!

Yours sincerely,

The Editor, Prof. Dr. Ryszard Kozłowski

#### **The Letter from Mr. Philippe Busquin, Member of the European Commission**

EN (04) 201763-S 601 614

Brussels, Belgium, 27.08.2004

Prof. Dr. Ryszard Kozłowski  
Director General  
Institute of Natural Fibres, Ul. Wojska Polskiego 71  
60-630 Poznań, Poland

Dear Professor Kozłowski,

Thank so for your Letter of 17th July 2004 about the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants. It is clear that the network has achieved much success in developing the cultivation and use of bast fibrous plants and has developed well over the past 15 years, for which you are to be congratulated.

You will be aware that the European Commission supports the development of networks through different collaborative grants within its framework programmes for research, and it is one of our objectives to improve the coordination of different institutions working in specific scientific fields. While I accept that there is always a risk of duplication and inconsistency when supporting work from multiple sources of funding, there is clearly also a case for funding on a competitive basis. When developing our work programmes, and while always working within overall remit of the Framework Programme, we take on board many comments from throughout Europe. These come from a range of stakeholders and include expert scientific advice and the requirements of our member states. All selected topics are then open to the whole scientific community for potential support. As a result of this approach, I regret to say that there is no mechanism to provide additional support to your network in an *ad hoc* manner.

I am aware that a number of scientists who are active in your network are also contributing to projects funded by the European Commission. If you are interested in current funding possibilities, and also in details of the types of support we provide, all information can be found on the Cordis website ([www.cordis.lu/fp6](http://www.cordis.lu/fp6)). Although no specific topic is currently in your subject area, the work programmes are amended regularly and it is always worth reviewing the site from time-to-time. If you would like to discuss current projects you might like to contact Richard Hardwick ([Richard.Hardwick@cec.eu.int](mailto:Richard.Hardwick@cec.eu.int)).

I wish you well in finding sufficient support to continue your network and in developing it successfully over the coming years.

Yours sincerely,

Philippe Busquin, Member of the European Commission  
European Commission, B-1049 Brussels, Belgium, E-mail: [philippe.busquin@cec.eu.int](mailto:philippe.busquin@cec.eu.int)



## 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, The 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)).

**COORDINATION CENTRE OF THE NETWORK:** Institute of Natural Fibres, ul. Wojska Polskiego 71 b, 60-630 Poznan, Poland, tel.: +48(0) 61 8480-061, fax/tel.: +48(0) 61 8417-830, E-mail: [netflax@inf.poznan.pl](mailto:netflax@inf.poznan.pl)

**Network Coordinator – Prof. Dr. Ryszard Kozłowski**, General Director of the Institute of Natural Fibres, Poznan, Poland, tel. +48(0) 61 8480-061



**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, Slovakia, 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, Telephone: (403) 507-7970, FAX: (403) 507-7977, E-mail: [paulk@admin.oldscollege.ab.ca](mailto:paulk@admin.oldscollege.ab.ca), [www.occi.ab.ca](http://www.occi.ab.ca) and 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: [elhariri\\_d\\_m@hotmail.com](mailto:elhariri_d_m@hotmail.com)

## NETWORK WORKING GROUPS (WG):

*Please note!*

*A more detailed description regarding the activities of the six Working Groups was provided in all previous editions of this bulletin and can be provided on request by the Network Coordinator.*

### WG/1. Breeding and Plant Genetic Resources

Chairman – **Dr. Martin Pavelek**

AGRITEC, Research, Breeding & Services  
Zemedelska 16, 787 01 Šumperk

**The Czech Republic**

tel. +420 583 382 106, fax +420 583 382 999

E-mail: [pavelek@agritec.cz](mailto:pavelek@agritec.cz)

Co-chairman – **Dr. Alexandra Balabanova**

Head of Flax Department

AgroBioInstitute

Blvd Dragan Tzankov 8

Sofia 1164

**Bulgaria**

Tel.: +359 2 9635411, Fax: +359 2 9635408

E-mail: [alex\\_b@abi.bg](mailto:alex_b@abi.bg), [ablbanova@hotmail.com](mailto:ablbanova@hotmail.com)



**WG/2. Extraction and Processing**Chairman – **Eng. Martin Tubach**

Managing Director

Institut für Angewandte Forschung (IAF),  
Fachhochschule Reutlingen, Alteburgstr. 150  
D-72762 Reutlingen,**Germany**

tel. ++49/7121/271-536, fax. ++49/7121/271-537

E-mail: [Martin.Tubach@FH-Reutlingen.de](mailto:Martin.Tubach@FH-Reutlingen.de), <http://www.fh-reutlingen.de>Co-chairman – **Mr. Olivier Demangeat**

Chef de Service Propriété Industrielle et Veille Technologique

N. SCHLUMBERGER &amp; CIE

170 rue de la République

BP 79-68502 GUEBWILLER CEDEX

**France**tel.: +33/0-3 89 74 41 80 (direct); E-mail: [olivier.demangeat@nsc.fr](mailto:olivier.demangeat@nsc.fr)tel.: +33/0-3 89 74 41 41 (central); E-mail: [nsc@nsc.fr](mailto:nsc@nsc.fr)

fax: +33/0-3 89 76 05 87

**WG/3. Economics and Marketing**Chairman – **Albert Daenekindt M.Sc. (Ec.)**

Secretariat: Algemeen Belgisch Vlasverbond

Oude Vestingsstraat 15, B-8500 Kortrijk

**Belgium**

tel.: +32/ 56 22 02 61, fax: +32/56 22 79 30,

E-mail: [albert.daenekindt@vlasverbond.be](mailto:albert.daenekindt@vlasverbond.be)Co-chairman – **Mr. Gordon Mackie**

C. Text. FTI C.I. Mech. E. FRSA

International Textile Consultant

228 Ballylesson Road

Drumbo, Lisburn, BT27 5TS

**N. Ireland, UK**

tel.: +44 (0) 2890-826541, fax: +44 (0)2890-826590

E-mail: [mackieg@tiscali.co.uk](mailto:mackieg@tiscali.co.uk)**WG/4. Quality**Chairman – **Prof. Dr. Shekhar Sharma**

The Queen's University of Belfast

Department of Applied Science, Faculty of Agriculture &amp; Food Science

Newforge Lane, Belfast BT9 5PX

**N. Ireland**

tel.: +44/ 1232 250 666, fax: +44/1232 668375

E-mail: [Shekhar.Sharma@dani.gov.uk](mailto:Shekhar.Sharma@dani.gov.uk)The developments of the European program: **the COST Action 847:****TEXTILE QUALITY AND BIO-TECHNOLOGY**, coordinated by the

Chairman of the Group Prof. S. Sharma and Dr. Johanna Buchert of VTT Biotechnology and Food Research, Finland are described in this issue.

**WG/5. Non-Textile Applications**Chairman – **Prof. Dr. Ryszard Kozlowski**

Institute of Natural Fibres

ul. Wojska Polskiego str. 71b, 60-630 Poznan

**Poland**

tel.: +48 (0) 61 8480-061, fax: +48 (0) 61 8417 830

E-mail: [sekretar@inf.poznan.pl](mailto:sekretar@inf.poznan.pl)Co-chairman – **Prof. Dr. Poo Chow**Department of Natural Resources and Environmental  
Sciences, University of Illinois1102 South Goodwin Avenue, Urbana, Illinois, 61801  
W-503 Turner Hall, **USA**

phone 2173336670, Fax 2172443219

E-mail: [p-chow2@uiuc.edu](mailto:p-chow2@uiuc.edu)



**WG/6. Biology and Biotechnology**Chairman – **Dr. Claudine Morvan**Secretary – **Dr. Pierre Balange**

Université de Rouen, Scueor Ura 203 CNRS

76821 Mont Saint-Aignan Cedex

**France**

tel.: +33/ 2/35146751 fax: +33/ 2/ 35705520

E-mail: claudine.morvan@univ-rouen.fr

E-mail of Secretary: pierre.alain.balange@univ-rouen.fr

Co-chairman – **Prof. Dr. Atanas Atanasov**

Director of AgroBioInstitute

Plant Biotechnology Research Center

Blvd Dragan Tzankov 8

Sofia 1164

**Bulgaria**

tel.: +359(0) 721 2552, GSM 088 714154

fax: +359(0) 721 4985,

E-mail: atanas\_atanassov@agrobioinstitut.org



Networks' Representatives pictures:

**In North America – Dr. Paul Kolodziejczyk**

Olds College Centre for Innovation, Alberta

**Canada****In the Near East – Prof. Dr. Dardiri Mohamed El-Hariri**, National Research Centre, Dokki Cairo, **Egypt****WORKING GROUP NEWS****THE PROPOSAL TO CREATE A NEW WORKING GROUP**

Dear Network members,

The 3<sup>rd</sup> Global Workshop of the Network (the 6<sup>th</sup> world conference of the Network) is approaching, ahead of our activities. As you know, the event will be held on October 24 -28, 2004 in Banja Luka, Bosnia and Herzegovina, Republic of Srpska,. This is the time when we should review and consider our activities, create new future plans and prospects. The event of such a range provides a chance for creation of a new Working Group, which should be suggested and discussed during the Workshop, which is de facto a world conference of the Network, hold every 3-4 years. Let us remind you once again about the proposal of given by Dr. Piero Venturi, Faculty of Agriculture, University of Bologna, Italy to create a new Working Group, dealing with agro-technique (for more pieces of information see the previous issues of the Newsletter).

**The appeal to the Working Groups chairmen:** please, prepare a survey of each Group's activities and the try to think about the future prospects. The surveys have to be presented during the Workshop in Banja Luka.

**FLAX, HEMP AND ALLIED FIBRES IN THE WORLD****Flax and linen industry in China. Present situation and perspectives**

*Prepared by: Mr. Albert Daenekindt, Director of Algemeen Belgisch Vlasverbond, Oude Vestingsstraat 15, 8500 Kortrijk, Belgium, fax: + 32/56/22 79 30, E-mail: bvlasverbond@skynet.be*

The first China International Bast-fibrous Plants and Textile Processing Conference took place in Beijing on 29 and 30<sup>th</sup> March 2004. By organizing this conference, the China Bast and Leaf Fibres Textile Association wanted to create a business platform, in order to urge the participants to think about the future, while offering them the opportunity to extend their

business contacts. The organizing committee had done its utmost to make this conference an international forum where import and export companies from all over the world could not allow themselves to stay away. Over two hundred participants, among whom a lot of representatives of Western European flax trading companies, attended the conference. Our participation and presence in Beijing allowed us to gather some information on the present situation and perspectives of the Chinese flax and linen industry, that still represents an important pillar of the local textile industry. Gathering correct information not always appeared to be easy: apart from the fact that in some production data the natural fibres ramie and flax are treated together, there sometimes also exists a substantial difference in the figures given by various sources. Nevertheless, we have tried to picture the importance of the flax and linen business, from the plant till the finished product, and placed it in an international context.

## 1. Flax culture

The fibre flax cultivation area in China amounts to approximately 133.000 hectares. The traditional cultivation areas for flax are situated between 48 and 55 degrees latitude north. Consequently, fibre flax is grown mainly (80%) in some northeastern provinces, of which Heilongjiang is the most important. The flax culture is situated in these regions for obvious reasons: fertile soils, long sunny days and a sufficient rainfall. Heiya and Huaguang are the most frequently sown seed varieties. If we place the Chinese flax area on a worldwide scale, this gives us the following picture for the year 2003 (in hectares):

### - Western Europe

Belgium	19.250	}	100.304
France	76.439		
Netherlands	4.615		

### - Eastern and Central Europe

Russia	105.000	}	237.000
Ukraine	30.000		
Lithuania	10.000		
Poland	6.000		
Czech Rep.	6.000		
Belarus	80.000		

### - Africa

Egypt	30.000
-------	--------

### - Asia

China	133.000
-------	---------

This means that today, on a worldwide scale, altogether some 500.000 ha of fibre flax are grown.

## 2. Fibre production

As for flax fibre production, China has to face many problems. Yields are low and the quality is rather moderate. The warm water retting method still accounts for at least 80% of the fibre production; for the remaining 20% one uses "postponed" dew-retting, that is carried out the next year.

Moreover, flax is grown on fields that are far too small, which doesn't allow the use of appropriate harvesting machines.

The main problem, however, that no one can change, is the climate. Flax is sown too late (in May), especially since winter already begins in September.

For all these reasons, the yield of flax straw lies between 3 and 3,6 tons per hectare. The fibre output, obtained after retting and scutching, averages some 200 kg/ha of long fibres and 270 kg/ha of short fibres.

On the basis of the data for the crop 2003, China occupies the third place on the list of flax fibre producers in the world (see table alongside).

A theoretical shortage of 50.000 tons

What are the consequences, for China, of the above situation?

The flax spinning mills operating today in China - at the end of the year 2003 they accounted together for about 530.000 spindles - use between 80.000 and 100.000 tons of flax fibres, mainly long fibres. Consequently, there is a theoretical shortage of over 50.000 tons of long flax fibres. According to our statistical data, Chinese imports 2003 amounted to some 60.000 tons, of which about 50.000 tons were imported from Western Europe. Still according to our information, a new extension wave should increase the number of spindles in the Chinese flax spinning industry up to some 700.000 by the end of 2005 (see further)!

Can China meet its own needs?

The key question is: "Will China ever be able to produce enough flax fibres, in order to become fully self-supporting?"

During the conference, and through informal conversations in particular, we learned that today already major efforts are made, in order to expand the flax cultivation over the whole Chinese area.

In earlier times, flax was sown mainly in the northeastern part of the country. That's why the first spinning mills were also set up in these regions, close to the production area. Most of these spinning mills were state enterprises.

The new spinning mills, however, started these last few years by private investors, are mainly built in the southern regions of China. For that reason, an expansion of the flax cultivation and transformation to these southern provinces (such as Sichuan, Yunnan, Zhejiang, Guangdong), that are more developed from an economic point of view, is pursued.

In these southern provinces, where it can be very hot and dry, flax is now sometimes cultivated on irrigated land, which certainly is not a simple nor cheap solution.

Using the existing biotechnology, the Flax Research Institute in Heilongjiang is working on a number of projects to develop new flax varieties that are adapted to the weather and soil conditions.

The retting problem, however, still exists today. Anyway, China seems to be fully aware of the problems concerning water pollution, energy costs, etc.

## Conclusion

Today, China is making efforts to expand the flax cultivation, but it is clear that it still has a long way to go. The moderate maritime climate is only one of the things they will never have. For that reason, it will always be difficult to spin a yarn superior to a Nm24, using their own output of raw material.

## 3. Spinning

It is almost past belief to see, what expansion the flax spinning sector in China has taken these last few years. The number of operational spindles, that amounted to 21.800 in 1983 and 144.500 in 1990, was estimated at some 530.000 at the end of 2003. And we haven't seen the end yet, since a new expansion is announced that should bring the number of spindles to about 700.000 by the end of 2005!

At the end of 2003, the number of operational spindles in the Chinese flax spinning industry was spread as follows over the different regions:

Heilongjiang	154.400
Zhejiang	129.000
Jiangsu	73.500
Shandong	40.000
Anhui	25.000
Shanxi	24.000
Jilin	18.000
Liaoning	14.000
Other	52.000
Total	± 530.000

The flax spinning sector consists of 66 companies, of which 46 have less than 10.000 spindles, and 27 will continue to expand in 2004 as well as 2005.

The overall yarn output in China in 2002 was 32.486 tons, including 21.486 tons of pure flax yarn.

## Fundamental changes

In 2002 and 2003, the flax industry, and flax spinning in particular, has been the scene for a series of fundamental changes.

- The public investments in the north have been replaced by new private investments in the south of the country.
- The large companies with their vertical structure evolve towards individual businesses that are specialized in a particular field of activity (fibre production, spinning, weaving, finishing).
- In order to encourage the export of flax yarn, an increasing attention is paid to the quality of the production.

This leads us to the conclusion that, even in the future, the Chinese flax spinning mills will remain important buyers of good-quality flax fibres, which should allow them to produce a standard yarn of at least Nm 26,5.

## 4. Weaving

During the Conference in Beijing, we have unfortunately not been able to gather much information about the size of the flax weaving sector in China.

As for the output of flax cloth, we learned that in 2002, 38.150 km of flax grey cloth were produced, of which 20.640 km in pure linen. Next to that, there was an output of 33.560 km of dyed and printed flax cloth.



## GENERAL CONCLUSION

1. China is and remains a very important market for the Western European flax scutching industry (imports 2003: about 60.000 tons of fibre). A sufficient supply of flax fibres is a necessity for a stable development of the Chinese flax industry.
2. If possible, China will have to make huge efforts, if it wants to become fully self-supporting in good-quality flax fibres. This will certainly be hard to achieve and will take quite some time.
3. Flax spinning and weaving in China are bursting with energy. Another important development in China, and in the bigger cities in particular, is the emergence of a large domestic consumer market, where solid promotion campaigns try to increase the demand for linen. Maybe the C.E.L.C. promotion department in Paris can accomplish a very important job here. Why shouldn't they cooperate with the Chinese flax industry, and set up promotion activities together? In the future, this cooperation could turn out to be highly profitable for the flax industry in Western Europe!

	LONG FIBRES		SHORT FIBRES	
	tons	%	tons	%
Western Europe	140 000	60	60 000	34
Central and Eastern Europe	50 000	22	65 000	37
China	26 000	11	36 000	20
Egypt	16 000	7	16 000	9

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

### The Letter of the Network Coordinator to Mr. Philippe Busquin, Member of the European Commission

DN/1644/04

July 17, 2004

Mr. Philippe Busquin  
 European Union Research Commissioner  
 European Commission  
 Directorate-General for Research  
 SDME 02/83  
 B - 1049 Brussels  
 Belgium  
 Tel: +32-2-295.99.71  
 Fax: +32-2-295.82.20

### Ref: Collaboration between the European Commission, EU and FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants

Dear Mr. Busquin,

Let us introduce you to our activities: the Coordination Centre of the FAO European Cooperative Research Network on Flax and other Bast Plants is provided for by the Institute of Natural Fibres (INF) in Poznan, Poland. The Network acts within the SCORENA system (European System of Cooperative Research Networks in Agriculture).

The Flax Network was established in 1993, but its activities began earlier, namely in 1989, when ad hoc Research Group on Flax was created. Since 1996, the Network enlarged its scope by including "Other Bast Plants" to its activities and established representative posts in North and South America, Near East and China.

At present, the whole Network brings together 357 experts from 52 countries in the field of research, economics, marketing and industry. During 15 years of activities, the Flax Group and the Network organised 5 global conferences, 15 international conferences, 11 meetings (workshops) of Working Groups, 8 meetings of Coordinating Board and 4 meetings of the Panel of Experts, co-organised 10 international conferences and issued 20 publications.

The Network under my leadership, is an example of a structure, which has worked for 15 years and has been developing all the time.

Our Network has already worked for fifteen years and its development and creation of new forms of activities proceeded continuously.

Activities of our Network in the scope of natural fibres are well known and they can result in great benefits to the countries of the European Union in the field of creating progress and opening possibilities of transferring European high technology (not only knowledge) to developing countries of South America, Africa and Asia.

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

1. 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.
2. Reduction in the deficit of lignocellulosic fibrous raw material in Europe.
3. Contribution to the reduction in over-production of food in Europe.
4. Utilisation of by-products such as linseed for the production of agro-fine-chemicals applied to healthy food and nutrition.
5. Reclamation of industrial areas polluted with heavy metals by the cultivation of heavy metal-absorbing bast fibrous plants (non-food crops)
6. Contribution to sustainable development of rural areas of Europe and other regions.

The address of Web page of FAO/SCORENA system is <http://www.fao.org/regional/europe/escorena/>

As you probably know, functioning and future prospects of the SCORENA system were discussed between FAO and the European Commission on Agriculture (this year such a discussion took place in March in Rome and in May in Montpellier).

Recently, the 33rd Session of the European Commission on Agriculture, which was held on 2-3 March, 2004 at FAO headquarters in Rome, confirmed the FAO's appreciation of our Network activities. The relevant report on the session put forward the proposal, that the network on cotton, which still had some ongoing activities, could be incorporated into the network on flax and other bast plants, which would then become the "Network on Fibre Crops". It obviously means the enlargement of the scope of activities and the status, because the cotton network is inter-regional one (see the relevant report).

**Unfortunately, the resources of FAO are at present very limited and this fact has resulted in a partial support only for the publication of a bulletin, for the organisation of some conferences (global workshops only) and a modest financial assistance to the activities of the Coordination Centre. For this reason we have intended to convert the Network into a Centre of Excellence and aiming at that, the Institute of Natural Fibres submitted the relevant application to the EU within the bid of January 2002. The name of the project was Sci-Tech Centre of Excellence for Natural Bast and other Lignocellulosic Fibrous Raw Materials; acronym NATUR-FIBRE. Unfortunately, the application was unsuccessful due to out-of-scope reason.**

At the same time, many new Centres of Excellence have been created and accepted in an ad hoc way (without any long-lasting experience).

I would like to call your attention to some inconsistency and duplication in the formation of networks and granting financial support by FAO from its funds and by the European Union from separate funds. In our opinion, it brings about unnecessary doubling efforts and scattering, or even wasting, energy and experience.

**A network, which works so successfully and has members working together in the whole world, cannot be formed at once and its success required some time.**

**Please, consider any form of financial support to the activities of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants.**

Additionally, we ask you to kindly consider it as a signal of a wider problem associated with the collaboration of different institutions and organisations working in the territory of Europe. In my opinion, this collaboration, in its present form, suffers from insufficiency as concerns coordination of efforts made by different institutions in the field of the development of modern science and technology, too.

I would greatly appreciate receiving your answer and advice concerning the help of your Commission to our Network, which has received such an appreciation mentioned above.

Thank you in advance for your kind consideration of my request and any piece of advice.

With best regards

Sincerely yours,

Prof. Dr. Ryszard Kozłowski

Director General of the INF and the FAO Network Coordinator

---

## OPEN COMPETITION FOR THE BEST PAPER OR POSTER

PRESENTED DURING THE CONFERENCES OF THE FAO EUROPEAN CO-OPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS

The Network coordination centre proposes that the most interesting papers or posters presented during our network meetings and conferences, *if possible with the best implementation*, would enter the competition.

The special jury will judge all papers and posters presented during the year, and we will let you know the results in due course.

All Network members are cordially invited to participate in the competition to be continued the next year.

---

## Transborder Polish —German co-operation at Utilization of Agricultural Fibrous Plants.

### Grounds and Methods of Co-operation

Henryk Burczyk, Irena Pniewska, Instytut Włókien Naturalnych - *Institute of Natural Fibres*, , ul. Wojska Polskiego 71b, 60-630 Poznań, Poland, E-mail: whc@inf.poznan.pl

The ground to start collaboration is the agreement signed between the Innovation and technology Center (CIT) in Guben and the Institute of Natural Fibres in Poznań on 5<sup>th</sup> June 2000. The aim of the aforementioned agreement is stimulating economic activity at both sides of the Oder river with growing and utilizing fibrous plants (especially hemp) and growing and using other agricultural plants cultivated for non-food purposes.

On 14<sup>th</sup> February 2001 Letter of Intent between high-ranked representatives of Lubuskie region local authorities (voivoda and marshal) and those of Brandenburg and Sprewa-Nysa county was signed. The document aims at encouraging central and local authorities in transborder region to activate the economy with growing fibrous plants and manufacturing products obtained from them.

To fulfill the substance of the letter Working Team was established which supported production of renewable raw materials on Polish-German border.

On 13<sup>th</sup> and 14<sup>th</sup> May 2003, during International Innovative Forum in Cottbus the International Strategic Network for Utilizing Agricultural Fibrous Plants was founded. At the same time the co-operation was extended to include Alberta Research Council Inc. from Canada. Accordingly the principles of Canadian-German-Polish co-operation were specified in the form of Memorandum of Understanding signed by organizations from those countries.

To fulfill the innovative tasks by SMEs financial means for modernization, building new plants, purchasing of new technologies, devices and machinery are required. Thus attempts at preparing and registering mutual projects co-financed from PHARE or CRAFT funds were made. The projects dealt with obtaining hemp fibre for automobile, composite and other industries.

Within transborder collaboration concerning utilizing fibrous plants several international conferences were organized. In 2001 two Polish-German workshops were held (in Poznań and Pulawy) on "Fibres – developing potential of flax and hemp" where the main issues discussed were: prospects for flax and hemp, new tendencies in harvesting and processing of flax and hemp, review of technologies of hemp harvesting in Europe.

Among other important conferences organized in the transborder region are: Hemp Day in Spremberg, annual German-Polish Innovation and Technology Day in Guben and Textile Conference of Brandenburg land – Innovation in Euro-Textile-Region held in Frost and mentioned above International Strategic Network for Utilizing Agricultural Fibrous Plants (Cottbus 2003).

In 2004 the Institute of Natural Fibres was the co-organizer of International Congress of Renewable Resources and Plant Biotechnology NAROSSA held in Magdeburg. According to Polish-German agreement the next NAROSSA Congress will take place at the Institute of Natural Fibres in Poznań on 5-7<sup>th</sup> June 2005 (see the programme).

The Institute of Natural Fibres promotes its technologies and products at fair and exhibitions in Germany such as International Flax Days in Ramenau/n. Bautzen and Grüne Woche Fair in Berlin.

The Institute's of Natural Fibres offer for potential partners

The Institute presents a wide offer of products and services.

We offer for example:

Sowing material for hemp and fibre flax

Technologies of breeding high-performance varieties of flax and hemp

Technology of harvesting hemp for seed

Technology of flax and hemp straw decortication

Edible flax oil, Bioflax, roasted flax and hempseed

Cosmetics based on hemp and flax oil

Technology of producing insulation boards for building industry

Fire-retardants for wood impregnation

A wide range of hemp and linen textiles: clothes, tablecloths, towels etc.

Fashion shows of linen and hemp clothes

### The results of the co-operation

The Institute of Natural Fibres in Poznań runs breeding of new varieties of hemp and reproduction of sowing seeds. From three hemp varieties used previously – Białobrzskie, Beniko and Silesia – the two first are registered at the European Union varieties list.

Since 2000 55 tons of high-grade certified seeds have been sold to German customers. Only in spring 2004 more than 20 tons of hemp seeds were sold.

Since 2003 testing research concerning our varieties has been carried out in Thüringen at research stations of Agricultural Office in Thüringen. The Research Institute „Agretic” from Sumperk in the Czech Republic carries out similar research aimed at assessing usefulness of our varieties.

For two years tests on our hemp varieties and their usefulness for post-mining soil reclamation have been done by Forschungsinstitut für Bergbaufolgelandschaften e. V in Finsterwalde.

In spring 2004 "Agro-Kon" company from Zachodniopomorskie started co-operation with a German partner from Meklenburg to produce hemp straw from the area of 500 ha. The Institute of Natural Fibres supplied them with sowing material and provided with a state-of-art technology of hemp growing and harvesting.

## Conclusions

The further, efficient development of Polish-German transborder collaboration depends on recognition of crucial conditions and factors determining its progress.

Enlargement of growing area for fibrous plants used for non-food applications can contribute to economic boom in agriculture, SME sector and several other industries.

Success of the boom, measured by the growth of production volumes and employment indicators are related to the value of economic and organizational support provided by European Commission, local and central authorities and scientific world. The support should include rendering cheap loans or granting subsidies, lowering taxes, defining the quality of purchased raw materials and finally establishing prices at such level that is economically acceptable for both partners. Existing free-market methods of setting prices do not give incentives for enlarging production of renewable raw materials in both countries. It is due to different economic situation in agriculture and different legal and tax systems.

In the area of production and processing raw materials new innovative methods should be searched for, which will increase the efficiency of soil, human and mechanical labor. Apart from that quality and ecological requirements concerning the raw materials must be followed. As a result lowering of production costs and increasing its efficiency can be reached.



## NEWS FROM THE INSTITUTE OF NATURAL FIBRES, POZNAN, POLAND

The Institute has created the **bank of natural fibres**. During last ten years we have noticed a growing interest in widening the usage of natural fibers as reinforcing materials for polymer based composites. Such composites may be used to produce parts of vehicles, building elements, furniture, insulating materials, gardening etc.

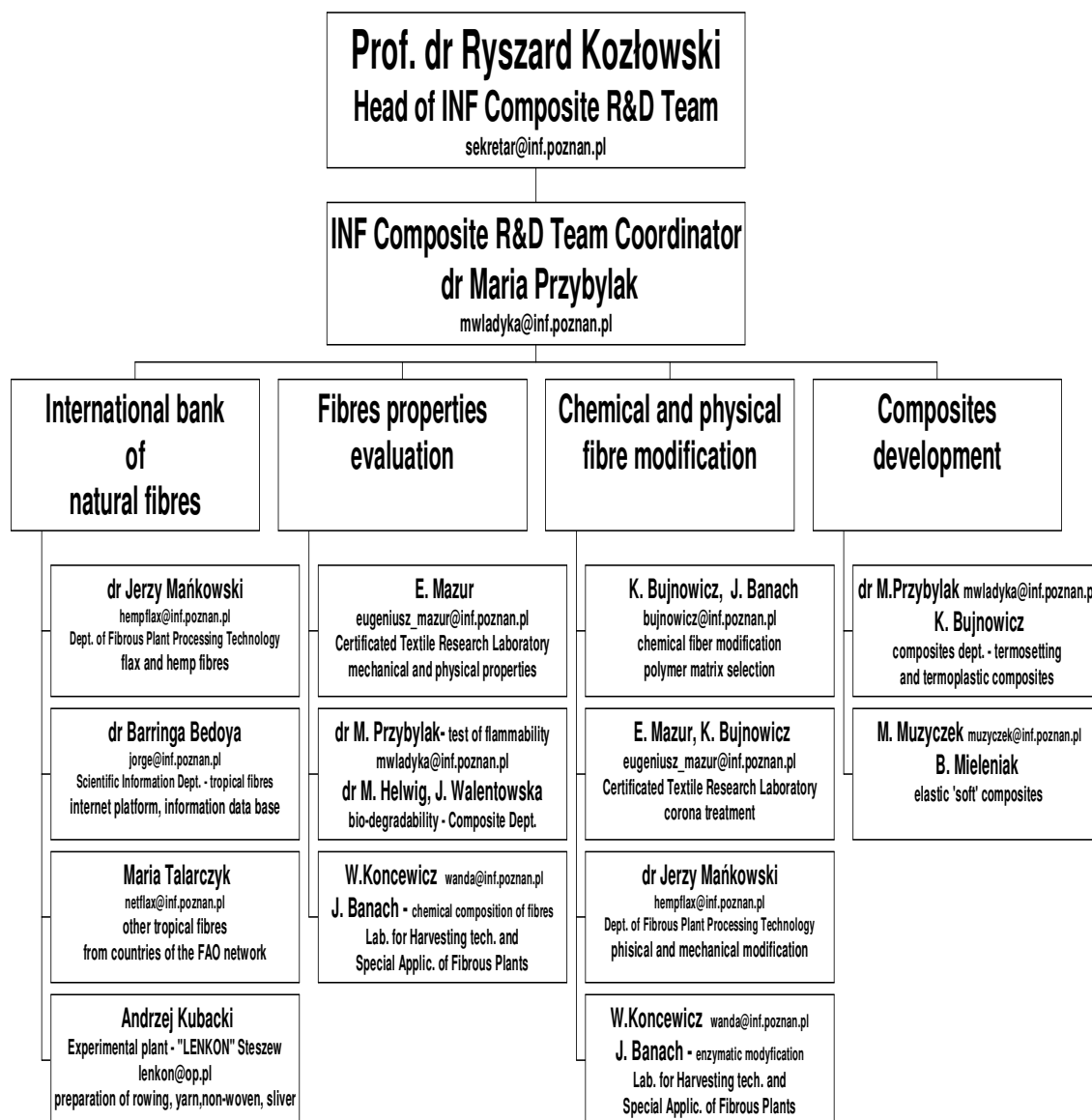
The aim of the bank is to collect the samples of fibres from all over the world:

- bast fibres: flax, kenaf, jute, ramie
- leaf fibres: pineapple, banana, sisal, curaua, abaca, etc.
- seed fibres: cotton, kapok, coir
- fruit fibres: coconut
- grass fibres: bamboo, bagasse, etc.

We collect all information concerning physical and chemical properties of those fibres in order to provide a data base for composite research and industry. Chemical and physical modification of the natural fibers will also be performed to use them as reinforcement in composites based on all kind of polymers.

We believe that our bank will provide help for industry and scientific research in order to develop new applications of natural fibers in composites.

## The organization chart of the bank of natural fibres at INF



## NEXT CONFERENCES PROPOSALS



**3<sup>rd</sup> GLOBAL WORKSHOP  
(GENERAL CONSULTATION)  
OF THE FAO/ESCORENA EUROPEAN  
COOPERATIVE RESEARCH NETWORK  
ON FLAX AND OTHER BAST PLANTS**

***“BAST FIBROUS PLANTS FOR HEALTHY LIFE”***

**October 24-28, 2004**

**Banja Luka, Bosnia and Herzegovina, Republic of Srpska**

## THE SCOPE

### **Third Global Workshop (General Consultation) of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants**

**to be held at the “Bansky Dvor“ - Congress Center” in Banja Luka, located in the centre of capitol.**

The goal of the Global Workshop is to present and discuss present state and future prospects of flax, hemp and allied bast fibrous plants in the field of genetic resources diversity, molecular biology, genetics, biotechnology, cultivation, breeding, phytopathology, harvesting, extraction of fibre, processing, textile and non-textile applications with special focus on contribution of bast fibrous plants and their derivatives to human health, comfort and ecology. The Global Workshop of the Network is the main Network's event. The General Workshop (the General Consultation) is de facto the continuation of four European Regional Workshops on Flax (Poland-“FLAX IN EUROPE. PRODUCTION AND PROCESSING”, Czechoslovakia - “FLAX AS A FIBRE AND OIL BEARING CROP”, Germany - “FLAX IN THE WORLD”, and Global Workshops: France - “PRODUCING FOR THE MARKET”, Bulgaria “BAST PLANTS IN THE NEW MILLENNIUM.

**The Third Global Workshop in Banja Luka is planned to be held in 5 scientific sessions:**

- I. Molecular biology, genetics, breeding;*
- II. Cultivation, harvesting, fibre extraction;*
- III. Processing and application for textile and non-textile applications including pharmacy, medicine, food, fodder, cosmetics etc, non-woven, biocomposites, agro-fine-chemicals, energy*
- IV. Quality, new testing methods & economic aspects*
- V. Physiological and medical aspects of natural fibres in comparison with synthetics*

***Let us join Banja Luka, Bosnia and Herzegovina! Please, note that the preliminary set of oral and poster presentations titles and the database of the registered attendees are available from the INF, E-mail: netflax@inf.poznan.pl***

#### **National Honorary Organizing Committee:**

M.Sc. R. Trkulja-Minister of Agriculture Forestry and Water Management of Republic of Srpska, Eng. D. Davidovic-Mayor of City Banja Luka, Dipl. iur. O. Visic-deputy of Mayor, Eng. M. Bozic-Minister of Federal Ministry of Agriculture, Water Management and Forestry, Prof. Dr. M. Bogdanovic-Dean of Faculty of Agriculture Srpsko Sarajevo, Prof. Dr. S. Nikolic-Agricultural Institute Banja Luka, Prof. Dr. D. Kolunic-Ministry of Science and Technology, Dr. N. Przulj-Research Institute of Field and Vegetable Crops Novi Sad, Dr. J. Berenji-Research Institute of Field and Vegetable Crops Novi Sad.

#### **Organized by:**

Coordination Center of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants acting at the Institute of Natural Fibres, Poznan, Poland

#### **In collaboration with:**

Agricultural Institute of Republic of Srpska– Poljoprivredni Institut Republike Srpske, Banja Luka

### **Workshop Organization Structure:**

#### **Central Organization: Institute of Natural Fibres (INF)**

Coordination Centre of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants  
ul. Wojska Polskiego 71b, 60-630 Poznan, Poland  
T: +48 61/ 84 80 061, F: +48 61/ 84 17 830, E-mail: netflax@inf.poznan.pl

#### **National Organizing Committee of Bosnia and Herzegovina:**

Prof. Dr. J. Stojcic-the Secretary of the National Organizing Committee, Director, E-mail: polj.institut.bl@blic.net, M.Sc. M. Nozinic-the deputy Secretary, E-mail: milosn@blic.net, Prof. Dr. J. Kondic, Dr. V. Trkulja, Dr. S. Vojin, M.Sc. K. Garic, D. Majstorovic, grad. economist, D. Jovanic, grad. economist, Prof. Dr. D. Gataric, Prof. Dr. M. Markovic, Prof. Dr. M. Ristic, Prof. Dr. M. Mišković, Eng. S. Trivkovic, Prof. Dr. S. Muminovic, M.Sc. Z. Elezovic, Eng. R. Fazlic, Dr. A. Hadzic, Eng. Z. Gajic, T. Vukovic, grad. economist.

#### **International Organizing Committee**

FAO Regional Office for Europe, Rome, Italy

Prof. Dr. R. Kozlowski-Network Coordinator, INF, Poznań, Poland

Eng. M. Mackiewicz-Talarczyk, Network Secretary, INF, Poznań, Poland

***Network's representatives:***



Prof. Dr. D.M. El-Hariri, NRC, Cairo, Egypt (Near East)  
 Prof. Dr. A. Leao, unesp, Botucatu, Brazil (South America)  
 Dr. P. Kolodziejczyk, Olds College Centre for Innovation, Canada (North America)  
 Dr. D. Sorlino, Universidad de Buenos Aires, Argentina, (South America)

**Network's chairmen:**

Dr. M. Pavelek, AGRITEC Plant Research, Šumperk, The Czech Republic  
 Dr. A. Balabanova, ABI, Sofia, Bulgaria  
 Eng. M. Tubach, IAF, Reutlingen, Germany  
 Eng. O. Demangeat, N. SCHLUMBERGER & CIE, France  
 Dir. A. Daenekindt, A.B.V., Kortrijk, Belgium  
 Mr. G. Mackie, N. Ireland  
 Dr. S. Sharma, The Queen's Univ. of Belfast, U.K.  
 Dr. C. Morvan, Univ. de Rouen, France  
 Prof. Dr. Poo Chow, University of Illinois, USA  
 Prof. Dr. Atanas Atanasov, ABI, Kostinbrod, Bulgaria

**GENERAL INFORMATION**

**Conference Language:** English

**Call for papers:** Experts working in scope of flax, hemp and allied plants in the field of genetic resources diversity, maintenance, molecular biology, genetics, cultivation, breeding, biotechnology, biology, biochemistry, phytopathology, harvesting, extraction of fibre, processing for textile and non-textile applications (non-woven, composites, agro-fine-chemicals, food, fodder, pharmacy and medicine, cosmetics, etc.), energy, textile and non-textile applications, marketing and trade have been invited to attend the event and submit proposals for oral or poster presentations.

**Registration** should be made with the enclosed registration form by October 31, 2004 (see the details in the Final Registration Form) below.

Hotel reservation will be arranged by Tourist Agency and Agricultural Institute of Republic of Srpska, Banja Luka.

Please, note that the set of comprehensive information regarding the 3rd Global Workshop of our Network and local condition (hotels, weather, transportation etc.) is available on the web site **www.worldfibres2004.com**

**Conference Address:**

Banski Dvor, Banja Luka, Trg srpskih vladara 2

**Final REGISTRATION FORM**

3<sup>rd</sup> Global Workshop of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants

Please return to the Institute of Natural Fibres,  
 60-630 Poznań, Poland, Fax: +48 61 84 17 830,

**E-mail: netflax@inf.poznan.pl with a copy to E-mail: milosn@blic.net**

- **by September 31, 2004 if you would like to present paper or poster** (prolonged date)
- **by October 15, 2004** for delegates without presentations as well as accompanying persons

I intend to participate in the 3rd G. Workshop

I would like to give an oral presentation

I would like to give a poster presentation

**Confirmed, final topic of the contribution/preliminary title:**

.....  
 .....

**Family:** .....

**First Name:** .....

**Title:** .....

**Organization:** .....

**Address:** .....

.....

**Phone:** .....

**Fax:** .....

**E-mail:** .....

## PRELIMINARY FRAME PROGRAMME

Sunday, 24 October, 2004

Afternoon Registration and Reception – Banski dvor, Banja Luka  
Open exhibition "Natural Textils - Tradition and The Present" – Izložbeni salon, Banski dvor, Banja Luka

Monday, 25 October, 2004

Opening Ceremony  
Coctail  
Plenary Talks  
Lunch and Poster Sessions I  
Oral Session  
Visit to the National-Etnological Galery  
(Alternatively: or to the Museum of Modern Art)

Tuesday, 26 October, 2004

Oral Session  
Poster Session II  
Lunch  
Oral Session  
Banquet: Fashion Show, Dinner, Dance Party

Wednesday, 27 October, 2004

Oral Session  
Study Tour to Bardaca - Departure of Banja Luka  
Arrival to the Ecological Center Bardaca  
Arrival and Reception  
Mayor's welcome  
Lunch  
Lecture: "Tradition of growing and processing of Flax and Hemp on the Region of Banja Luka" by Prof. Zoran Pejašinović, "About Art-Ecological Colony in Bardaca" by director of the Colony Branka Suncanin  
Visiting to exhibition of art pictures, exhibits (tools) in touch with tradition of flax and hemp processing  
Visiting to swamp (lake) complex Bardaca – walk and sightseeing of the surrounding with the possibility of fishing and going by a boat  
Entertaining Program  
Return to Banja Luka

Thursday, 28 October, 2004

Oral Session  
Closing Ceremony

This Conference frame program is prepared by the team of Agricultural Institute of Banja Luka (with special input of Dr Trkulja Vojislav, who is responsible for technical Conference details). Approved by Prof. Dr. Ryszard Kozlowski.

---

## THE PROGRAM OF THE LECTURES

### Plenary Session

1. **Introduction:** Allam A., Cairo, Egypt: *Upgrading Flax Stagnant Ancestral Knowledge*
2. Kozlowski R., et. al., Institute of Natural Fibres, Poznan, Poland: *Flax Reality and Future Possibilities*
3. Rundgren G., Grolink AB, Höje, Sweden: *Organic Fibres: Production and Overview*
4. Berenji, J. Institute of Field and Vegetable Crops, Backi Petrovac, Serbia and Montenegro: *Present Status and Future Perspectives of Hemp in Europe*
5. Tubach M., R. Alex, R. Kessler, R. Kohler, Institute for Applied Research, Reutlingen University, IAF, Germany: *Economic Trends along the Fibre Value Chain*

### Scientific Sessions

**I. Molecular Biology, Genetics, Breeding**

1. Pavelek M., AGRITEC, Research, Breeding and Services Ltd., Šumperk, Czech Republic: **Stocktaking of Flax Genetic Resources in Europe**
2. <sup>1</sup>Nozkova J. – <sup>1</sup>Brindza J. – <sup>2</sup>Stehlikova B. – <sup>3</sup>Pavelek M. , <sup>1</sup>Institute of Biodiversity Conservation and Biosafety, Slovak University of Agriculture in Nitra, <sup>2</sup>Department of Statistics and Operation Systems, Slovak University of Agriculture in Nitra, <sup>3</sup>Agritec s.r.o.: **Importance of Collected Flax Germplasm (*Linum usitatissimum* L.) Characterization**
3. Hernández A.<sup>1</sup>, Westerhuis W.<sup>2</sup>, van Dam E.G.J.<sup>3</sup>, <sup>1</sup>Polytechnic University of Valencia, Spain, <sup>2</sup>Crop and Weed Ecology, Wageningen, <sup>3</sup>Agrotechnology & Food Innovations, Wageningen, The Netherlands: **Microscopic Study on Hemp Bast Fibre Formation**
4. Paynel, F., Bruyant, P., Chevalier, V., Schaumann, A., Soret, O., Morvan, C. - Université De Rouen, France: **Synthesis of Galactans in Flax. Do They Play a Role in the Mechanical Properties of Fibres?**
5. Heller K., Byczynska, M. - Institute of Natural Fibres, Poznan, Poland: **Ontogenesis of Fiber Flax (*Linum usitatissimum* L.)**
6. Frach-Modrzejewska A., Plawuszeewski M., Department of Biotechnology, Institute of Natural Fibres, Poznan, Poland: **Identification of Cadmium-binding Proteins in Plants, Particularly in Linseed Flax. Report on State of Research**

**II. Cultivation, Harvesting, Fibre extraction**

1. Hadžić S., Sarajevo, Bosnia and Herzegovina: **Flax as Strategically Important Raw Material**
2. Venturi, P.<sup>1</sup>, Amaducci, S.<sup>2</sup>, Amaducci, M.T.<sup>1</sup>, Venturi, G.<sup>1</sup> - <sup>1</sup>Faculty of Agriculture, University of Bologna, Italy, <sup>2</sup>Faculty of Agriculture, University of Piacenza, Italy: **Interaction Between Agronomic and Mechanical Factors for Fibre Crops Harvesting**
3. Jankauskiene, Z., Bacelis, K. - Upyte Research Station of LIA, Upyte, Lithuania: **Testing of Long Fibre Quality of Various Fibre Flax Varieties by Different Methods**
4. Mankowski, J., Kubacki, A., Kolodziej, J. - Institute of Natural Fibres, Poznan, Poland: **Hemp Decortication, the Trends in Application and Possibilities of by-Products Utilization**

**III. Processing and application for textile and non-textile applications including pharmacy, medicine, food, fodder, cosmetics etc, non-woven, biocomposites, agro-fine-chemicals, energy****Situation in particular countries**

1. Milosavljevic, S., Skundric, P. - Faculty of Technology and Metallurgy, University of Belgrade, Serbia and Montenegro: **The Technical and Technological Potentials of Serbian Hemp**
2. Baričević, D., Kocjan, D. - University of Ljubljana, Slovenia: **Hemp (*Cannabis sativa* L.) Introduction in Slovenia**
3. Balabanova, A. - AgroBioInstitute, Sofia, Bulgaria: **Background and Further Strategy for Bast Fibre Plants Research in Bulgaria**
4. Fengzhi Guan, Guangwen, Wu - The Institute of Industrial Crops of Heilongjiang Agricultural Academy of Science, Harbin City, China: **A Brief Introduction on Current Situation and Proposals of Fiber Flax in China**
5. Dan M., E. Visileanu, National Research-Development Institute for Textiles and Leather-Bucharest, Bucharest, Romania: **Development Strategy of Chemical And Mechanical Processing Technologies for Linen-Hemp Fibres in the Period 2000-2010**
6. Munder, F.<sup>1</sup>, Fuerll, C.<sup>1</sup>, Hempel, H.<sup>2</sup> - <sup>1</sup>Institute of Agricultural Engineering, Potsdam, Germany, <sup>2</sup>Technical University of Brandenburg, Cottbus, Germany: **Mechanical and Thermal Properties of Bast Fibers**
7. Sirghie, Cecilia<sup>1</sup>, van Langenhove, Lieva<sup>1</sup>, Bucur, M.S.<sup>2</sup>, Bucevsky, Adina<sup>2</sup>, Bordeianu, L. Demetra<sup>3</sup> - <sup>1</sup>Ghent University, Textile Department, Belgium; <sup>2</sup>University Aurel Vlaicu” Arad, Romania, <sup>3</sup>Textile & Leather Faculty, University ”Gh. Asachi” Iasi, Romania: **Ultrasound Based Flax Cottonisation Methods and their Benefit in Flax-cotton Blended Yarn Processing**
8. Pinnow, M., Fink, H.P., Ganster, J. - Fraunhofer Institute of Applied Polymer Research, Potsdam, Germany: **“An Ultrasonic Method for the Determination of the Fiber Distribution in Nonwovens”**
9. Krgović, M., Nikolić, S., Borna, N., Mijatović, B. - Faculty of Technology and Metallurgy, University of Belgrade, Serbia and Montenegro: **Production of Chemical Thermo-Mechanical Pulp (CTMP) from Hemp Woody Core Fibres**
10. Krgović, M., Osap, D., Nikolić, S., Borna, N., Mijatović, B., Botonjić, S. - Faculty of Technology and Metallurgy, University of Belgrade, Serbia and Montenegro: **Banknote Paper Produced From Hemp Pulp**
11. Krgović, M., Nikolić, S., Mijatović, B., Kostić, M., Borna, N. - Faculty of Technology and Metallurgy, University of Belgrade, Serbia and Montenegro: **Hemp as Raw Material for Pulp Production**
12. Anandjiwala R.,<sup>1,2</sup> Blouw, S.<sup>1</sup> - <sup>1</sup>Centre for Fibres, Textiles & Clothing, Manufacturing & Materials Division, Port Elizabeth, South Africa, <sup>2</sup>Department of Textile Science, Faculty of Science, University of Port Elizabeth, South Africa: **Composites From Bast Fibres - Prospects and Potential in the Changing Market Environment**
13. Müssig, J., Rau, J., Herrmann A.S.S. - Faserinstitut Bremene V. - Fibre, Bremen, Germany: **Influence of Fineness, Stiffness and Load-Displacement Characteristic of Natural Fibres on the Properties of Natural Fibre Reinforced Polymers**

14. Banach, J.<sup>1</sup>, Kaniewski, R.<sup>1</sup>, Konczewicz, W.<sup>1</sup>, Kuzminski, R.<sup>2</sup> - <sup>1</sup>Institute of Natural Fibres, Poznan, Poland, <sup>2</sup>Agricultural University Poznan, Poland: *Cannabis sativa as a Potential Source of Repellents*
15. Schmidt-Przewozna, K. - Institute of Natural Fibres, Poznan, Poland: *Collection of Applied Arts on the Basis of Natural Dyes – the Comparison of Modern and Traditional Polish Design*

#### IV. Quality, New Testing Methods & Economic Aspects

- Sharma, S. - Faculty Of Agriculture & Food Science, The Queen's University of Belfast, Belfast, UK: *Technology Transfer of Visible and Near Infrared Calibrations for Quality Assessment of Flax Fibre and Yarn*
- Wasko, J., Mackiewicz-Talarczyk, M., Walentowska, J.- The Institute of Natural Fibres, Poznan, Poland: *“Quality Classification of Flax and Hemp. Indications Towards the Unification within Europe”*
- Czaplicki, Z. - Institute of Natural Fibres, Poznan, Poland: *Twist of Bast-Fibre Yarns - a Parameter Difficult to Determine*

#### V. Physiological and Medical Aspects of Natural Fibres in Comparison with Synthetics

- Tokura, H.<sup>1</sup>, Min-Ja, Ha<sup>2</sup>, Maki, Sato<sup>3</sup> - <sup>1</sup>Institute of Textiles & Clothing, The Hong Kong Polytechnic University, Hong Kong, China, <sup>2</sup>Altwell Korea Corp., Korea, <sup>3</sup>Department of Physiology, Aichi Medical University, Japan: *Physiological Significance of Underwear with Hydrophilic and Hydrophobic Properties in the Severe and Mild Cold*
- Dardiri M. El Hariri, National Research Centre (NRC), Dokki Cairo, Egypt: *The Beneficial Influence of Flax Products on Human Health. 1 - Flax Seed and Oil*
- Zimniewska, M., Kozłowski, R., Muzyczek, M., Florysiak, M. - The Institute of Natural Fibres, Poznan, Poland: *Towards More Physiological Friendly Natural Fibers Apparels*

#### Participation fees for participants out of Bosnia and Herzegovina

15 <sup>th</sup> April to 30 <sup>th</sup> June	30 <sup>th</sup> June to 1 <sup>st</sup> October	After 1 <sup>st</sup> October
200 Euros	250 Euros	300 Euros
The registration fee for delegates includes presence during: Opening Ceremony, the Scientific oral and poster presentation, Official Dinner and Fashion Show. Study Tour will be paid separately from the above registration fee by participants interested in it in amount of 40 Euros.		

#### PAYMENT INSTRUCTIONS FOR THE PARTICIPANTS OUT OF BOSNIA AND HERZEGOVINA

##### Nova Banjalučka Banka a.d.

Bank address:

Marije Bursać 7, 78000 Banja Luka, tel: + 387 51 243 223; fax: + 387 51 243 100, + 387 51 243 282, e-mail: tatjanadjurkic@novablbanka.com

Regarding any information or explanation about payment in English language, please contact Mr. Nenad Starcevic, tel: +387 51 243 228

#### PAYMENTS TO BE EXECUTED ACCORDING TO THE FOLLOWING INSTRUCTIONS:

##### Intermediary Bank

DEUTSCHE BANK AG  
FRANKFURT  
DEUTSCHLAND  
S.W.I.F.T. code: DEUTDEFF

##### Account with Institution

NOVA BANJALUČKA BANKA AD BANJA LUKA  
ACC. 100 9359118 1000  
S.W.I.F.T. code: BLBABA22

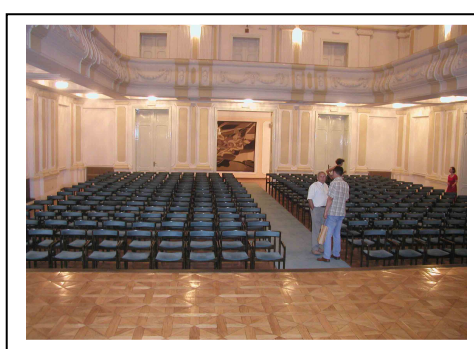
##### No. of account of beneficiary: 01059114

Full Name and Address of beneficiary:  
POLJOPRIVREDNI INSTITUT REPUBLIKE SRPSKE-BANJA LUKA

#### NOTE!

**Bank transfer charge must be paid by the participant** additionally. Registration fee bank transfer form should include family name of participant and the inscription: "Registration fee of the FAO Conference participant". Confirmation will be sent to you after the Conference service has received the registration form and payment in full.

Pictures of the organizing Committees, meetings and conference hall, made in Banja Luka in July 2003 (during the visit of Network Coordinator and Secretary) and in 2004.



---

## 11<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005

**First, short information about the planned conference.**

**Date:** June 5-7, 2005

**Venue:** Institute of Natural Fibres (INF), Poznan, Poland

**Topics:**

1. Biotechnology and plant breeding for non food applications
2. Fibres for textiles and composites (Raw materials, production and processing)
3. Processing, characterisation and application of secondary plant substances
4. Biomass for energy production
5. Environmental impact and miscellaneous

**Organising teams:**

ÖHMI Consulting GmbH, Managing Director, **Dr. Frank Pudel**, Berliner Chaussee 66, D-39114 Magdeburg  
Tel: +49-391-8507-171, Fax: +49-391-8507-150, Mobil: +49-175-5734085, email: pudel@oehmi-consulting.de  
www.oehmi-consulting.de

**Prof. Dr. Ryszard Kozłowski** and his team of the Institute of Natural Fibres, Poznan, Poland, , Ul. Wojska Polskiego 71b, 60-630 Poznan, Poland, tel.: +48/61/8 48 00 61, Fax: +48/61/ 8 41 78 30,E-mail: sekretar@inf.poznan.pl,

<http://www.inf.poznan.pl>

All information will be at: [www.narossa.de](http://www.narossa.de) (in the construction)

Conference language: English

The frame program:

June 5, 2005, Sunday

17:00-20:00 - registration and get together cocktail at INF

June 6, 2005, Monday

9:00-10:00 registration  
10:00-12:00 Plenary session  
incl. welcomings of the host and two patronages, and 3 scientific presentations (INF, 1 presenter from East Europe, 1 from West Europe)  
12:00-13:00 Lunch  
13:00-17:30 Scientific Sessions  
(could be 2 parallel) at INF conference rooms (a big and the one for 40-50 persons) or additionally at Agricultural University if necessary  
18:30 transfer to Szreniawa  
20:00 official dinner and a Fashion Show

June 7, 2005, Tuesday

8:30-12:00 Scientific Sessions (incl. 90 min. Poster discussion)  
13:00-14:00 Lunch break  
14:00-16:00 Scientific Sessions  
The end of the conference

June 8, 2005, Wednesday

Possibility to visit some companies or organisations

Sightseeing:

Saturday and Sunday, June 4-5, 2005  
Possibility to take part in the folk festival at the Museum of Agriculture in Szreniawa, 25 km from Poznan  
Additionally the special sightseeing could be organised for the attendees and accompanying persons on condition of earlier order.

### ➤ *The proposal of international conference in South Africa*

The representatives of NATIONAL FIBRE, TEXTILE AND CLOTHING CENTRE (NFTCC), CSIR Manufacturing & Materials Technology, Port Elizabeth, South Africa, confirmed officially the proposal of hosting the next international conference of our Network by CSIR in South Africa, probably in October 2005, devoted to **TEXTILES FOR SUSTAINABLE DEVELOPMENT**

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

1. **The Fibres Newsletter**, operated by Mr. Brian Moir, Commodities and Trade Division, FAO, Viale delle terme di Caracalla, 00100 Rome, ITALY, Fax: ++39 06 57054495, Tel: ++39 06 57054339, E-mail: [Brian.Moir@fao.org](mailto:Brian.Moir@fao.org)  
To subscribe to the list, send an email to [mailserv@mailserv.fao.org](mailto:mailserv@mailserv.fao.org), leave the subject line blank, with the message : subscribe Fibres-Ind-L. The Commodities and Trade Division of FAO (ESC) has a new website: <http://www.fao.org/es/esc/>
2. **INFORM\_IENICA** – Industry Network for Renewable Resources and Materials – Interactive European Network for Industrial Crops and their Applications in the new Millennium. Coordinator of IENICA: Mr. Melvyn F. Askew, Ministry of Agriculture, Central Science Laboratory at York CSL/MAFF, SAND HUTTON, YORK, UK YO4 1LZ, tel. 44-1904-462309; fax: 44-1904-462256, E-mail: [m.askew@csl.gov.uk](mailto:m.askew@csl.gov.uk), For more data see <http://www.csl.gov.uk/ienica>  
Coordinator of INFORM: Dr. Nigel Oliver, Operations Director, ACTIN, Pira House, Randalls Road, Leatherhead,



Surrey KT22 7RU, UK, Tel: +44/1372 802054, Fax: +44/1372 802245, E-mail: info@actin.co.uk, Website: <http://www.actin.co.uk>

3. **Flax Council in Canada;** The Council is based in Winnipeg, with Mr. M. Barry Hall as President. Mr. Donald H. Frith has 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](mailto:flax@flaxcouncil.ca)
4. **Saskatchewan Flax Development Commission,** A5A-116-103rd Street East, Saskatoon, Saskatchewan, S7N 1Y7 Telephone: (306) 664-1901, Fax: (306) 664-4404, Email: [saskflax@saskflax.com](mailto:saskflax@saskflax.com), Web site: [www.saskflax.com](http://www.saskflax.com)
5. **The Fiber Society** with Mr. Charles A. Cannon Professor as Secretary, Director Emeritus, Nonwovens Cooperative Research Center, College of Textiles, Box 8301, North Carolina State University, Raleigh, NC 27695-8301 USA, e-mail: [subhash\\_batra@ncsu.edu](mailto:subhash_batra@ncsu.edu), web page URL: [thefibersociety.org](http://thefibersociety.org)
6. **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)
7. **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](mailto:michael.karus@nova-institut.de)
8. **The Hemp Foods Industry.** Contact persons, John Roulac, call (800) 993-4367, Nutiva, P.O. Box 1716, Sebastopol, CA 95473. <http://www.nutiva.com/>
9. **Olds College Centre for Innovation Natural Fibre Centre (OCCI),** 4500 -50th Street, Olds, Alberta, Canada T4H 1R6, Telephone: (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)



## SOURCES OF INFORMATION

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

- a. <http://escorena.fao.org/> [ESCORENA, FAO, Rome – Network website]
- b. <http://www.inf.poznan.pl> [Institute of Natural Fibres, Poznan, Poland]
- c. <http://www.csl.gov.uk/ienica>, <http://www.ienica.net> [IENICA – Interactive European Network for Industrial Crops and their Applications in the Changing Millennium]
- d. <http://www.vtt.fi/bel/cost847/> — COST ACTION 847 “Textile Quality and Biotechnology”

Websites of the Network Chairmen:

- <http://www.agritec.cz> [Martin Pavelek, AGRITEC, Sumperk, 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:

<http://apps.fao.org> [FAOSTAT Database Results], <http://www.fao.org/es/esc/en/index.html>, <http://www.texdata.com>, <http://www.its-publishing.com>, [www.naturfaser-wirtschaft.de](http://www.naturfaser-wirtschaft.de)

<http://www.fao.org/es/ESC/esce/escr/hardfibres/fiberse.htm> (Hard Fibres)

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\\_28807en.html](http://www.fao.org/es/esc/en/20953/21005/21524/highlight_28807en.html)

[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/>



## 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 are active in the co-operation and work within the following EU projects:

- **COST Action 847: Textile Quality and Biotechnology** (within *COST– European Co-operation in the Field of Scientific and Technical Research*). The Network's scientists are active in the work of two Working Groups: WG/1 "Quality assessment of natural fibres" (chaired by Prof. Dr. S. Sharma) and WG/2 "Bioprocessing of Bast Fibres" (chaired by Prof. Dr. R. Kozłowski). They are contributing to establishing unified quality assessment of bast fibres in Europe as well as to develop environmentally friendly production technologies for textile industry by using enzymatic processes (for more pieces of information see COST Action 847 news in this issue).
- **COST Action 628.** Life Cycle Assessment of Textile Products, Eco-Efficiency and Definition of Best Available Technology (BAT) of Textile Processing. Program, served by the EU, in scope of COST system. The duration: 4 years, from 9 November 2000 to November 2004. Chairwomen – Eija Nieminen, Dr. Techn., Director at University of Art. and Design, UIAH DESIGNIUM – The New Centre of Innovation in Design. Her address: Hämeentie 135 C, 00560 Helsinki, Finland. Numbers of Tel.: ++358 9 756 30424, Fax: ++ 358 9 756 30433. E-mail: eija.nieminen@uia.fi More details about activities of the Cost Action 628 were presented in Euroflax Newsletter No 17
- **INFORM-IENICA project** [Contract No QLK5-2000-00111]: the European Commission supported 3 year project, started on 22 April 2001, completed on March 2004.  
IENICA is the Interactive European Network for Industrial Crops and their Applications in the Changing Millennium. Coordinator: Mr. Melvyn F. Askew, Ministry of Agriculture, Central Science Laboratory at York CSL/MAFF, SAND HUTTON, YORK, UK YO4 1LZ, tel. 44-1904-462309; fax: 44-1904-462256, E-mail: m.askew@csl.gov.uk, <http://www.csl.gov.uk/ienica>). **INFORM** is an Industry Network for Renewable Resources and Materials. The activities are coordinated by Dr. Nigel Oliver and Mr. Ian Bartle, Alternative Crops Technology Interactive Network Limited (ACTIN Ltd), PIRA House KT22 7RU, Leatherhead, UNITED KINGDOM. The EC/Brussels merged two independently submitted INFORM and IENICA projects to act jointly and in close cooperation (*within Concerted Actions*). IENICA report on industrial crops and their applications prepared on the basis of the previous project is available and it is the first market-driven overview of the prospects for alternative crops and the industrial crop situation in Europe. It contributes to accessing and discovering the fascinating potential Europe has at its disposal in creating more sustainable industrial growth for future generations (see <http://www.csl.gov.uk/ienica>). **It is highly recommended to study the content of the web page of the project, which contain a very large set of information such as: Background info, IENICA: Partners, Reports, Newsletters, Events, Diary, Plant Data base, Useful Data, Commercial, Policy, Enquiries (!), Biofumigants, Education.**



## SPECIAL STUDIES, NEWS, FORUM OF THE DISCUSSION

### Technical Textiles With Reference To Jute

S. Kajaria and U. Datta, *BioGeoTex*, Hastings Jute Mill, Kolkata – 700001, India. E-mail: [hestingsjute@vsnl.net](mailto:hestingsjute@vsnl.net)

#### Abstract

India is the biggest producer of jute and the industry has been catering to the need of packaging requirement of the world since inception. The introduction of synthetic materials in this field has declined the demand of jute, however its physical and chemical properties and easy degradability attracted the researchers to develop innovative products in the field of Technical Textiles. Some of the items as geotextiles and agrotexiles are reported in the paper.

**INTRODUCTION:** Jute is a bast fibre grown abundantly in the eastern part of India. The other producing countries are Bangladesh, Thailand and Nepal. The global production of the fibre is about 3 million tons per year of which half is produced in India alone. The economy of India particularly that of eastern part depends largely on the fibre on which about 4 million farmers and their families are dependant. The jute industry is providing livelihood of about 0.25 million workers and many traders and businessmen involved in it. Jute is exported as fibre, yarn as well as different kinds of products for industrial, agricultural and domestic applications like fabrics of different weight for packing industrial products and agricultural produces like wheat, paddy, oil seeds, tobacco leaves, tea, coffee, cocoa, nuts etc and domestic applications like different types of low cost floor mats, covers and carpets, hand bags as well as fancy bags for shopping. Apart from these the fibres are also used for producing open mesh fabrics for control of surface soil erosion by rain and wind as erosion control material. The other diversified uses are in progress like plastic reinforced rigid and semi rigid products for automobiles,

panels of doors and windows as well as colourful partition boards. Thus the fibre has been enjoying the application as technical textiles since its inception as back as in the early nineteenth century. It has since been catering to the demand of packaging material all over the world and with the advent of the synthetic materials its export volume decreased but production has increased for increase in the demand of internal market. In the domestic front too there is a fierce competition from the synthetic packages to which it has lost the market of packaging for fertilizer and cement. But its strength of renewable resource and biodegradability has made the fibre attractive to the scientists and planners who are working for protection of environment from pollution of synthetic materials. In the process a number of countries have already made legislation of importing recyclable and ecofriendly materials and in this context an attempt has been made to develop geotextiles, which are used in civil engineering like construction of road, railway, river and canal protection work as well as erosion control of slopes through vegetation and the areas where degradation is an advantage rather than deterrent. Similarly agrotexiles like

seed bed cover, plant nursery cover, fruit cover, root cover for saplings on transit and weed control are some of the attractive uses of a degradable material like jute.

This paper high lights applications of **jute geotextiles and agrotexiles** and their properties.

**GEOTEXTILES:** The textiles in the form of woven, non-woven, knitted or in their combination or fabricated as well as non-textiles like grid, sheet in two or three dimensions used for protection of soil and improvement in the functions like separation, filtration, drainage and reinforcement are called geotextiles.

**JUTE GEOTEXTILES:** The textiles made of jute fibres have been in use since early fifties, when there was no concept and application of geotextiles. The open mesh jute textiles were extensively used in the developed countries like the USA, Europe and Australia. The concept of geotextiles came in the light when textile and civil engineers joined hands to develop materials out of petro-chemical by products for reducing consumption of expensive civil engineering materials. Geotextiles can perform exacting geotechnical functions, which normal civil engineering materials can not do. Synthetic products were developed for the geotechnical functions like separation, filtration, drainage, reinforcement and protection. The experts in this field believe that none of the geotextiles works permanently but helps make up the deficiencies of the soil under treatment. The servicing period of the products depends on the type of soil, climatic condition, intensity of weathering action etc. However, its benefit has been proved over the years and so its popularity has been increasing at a rapid rate and the present consumption is around 1100 million sq.m per year. The geotextiles are divided broadly into two groups synthetic and natural, of which synthetic is predominant claiming about 95% of the market being the material whose exploitation was intended. The natural products are used for control of surface soil erosion and vegetation and in this field straw is predominant and the others are jute, coir, wood-wool, banana, abaca, sisal etc. In this field the materials are applied on the surface and hence, biodegradable products are preferred. Researchers have observed jute has properties to be used as separator, filter as well as temporary reinforcer and accordingly, products have been developed. The products have been tried for applications like river bank protection work as filter, construction of road on soft soil as separator, asphalt overlay as reinforcer and fabricated band drains for quick consolidation of deep seated soft soil. The product range of jute geotextiles have now spread from erosion control to critical civil engineering applications as mentioned above. The specification of the products is given in Table I and product selection guide in Table IA

**TABLE I: JUTE GEOTEXTILES AND THEIR PROPERTIES**

Product	Weight ASTM D 1910 (gsm)	Width (cm)	Thickness ASTM D1777 (mm)	Strength ASTM D1682 Grab(N) MD CD	Elongation At break (%) ASTM D1682 MD CD	Pore size (AOS) micron	Open area (%)
1(treated/ untreated)	760	76	2.0	850 850	10 10	300	-
2	600	122	2.3	850 850	10 10	-	20
3	292	122	2.0	350 350	10 10	-	70
4	500	122	5.0	350 250	8 8	-	50
5	730	122	6.0	400 400	8 8	-	30
6(treated)	1200	76	2.1	850 850	10 10	150	-
7(fabricated)	200g/m	8/10	10	1600	6	-	-
8	500	150	4.0	150 200	20 25	500	-
9	1000	150	8.0	250 300	25 30	300	-
10	450	122	2.0	450 450	10 10	-	30
11	200	102	1.0	300 300	10 10	-	20

TABLE IA: PRODUCT SELECTION GUIDE FOR THE GEOTEXTILES

	P R O D U C T S										
Application areas	1	2	3	4	5	6	7	8	9	10	11
Slope protection & vegetation											
Mine spoil stabilisation											
Fly-Ash pollution control											
Unpaved road/Paved road/Embankment											
Road surface											
River/Canal bank											
Concealed drain											
Vertical drain											

**AGROTEXTILES:** The textiles like yarn, twine, rope, fabrics (woven, non-woven, knitted) and non-textiles like impermeable sheets used for improvement in agriculture, horticulture, floriculture and forest are called agrotexiles.

From the time immemorial the materials are in use in the sectors as per requirement of the farm houses as well as individual farmers. Presently with the advancement of science and technology the applications have been made more precise to achieve the goals effectively and easily.

The product range for the above are given in Table II and product selection guide in Table IIA.

TABLE II: PRODUCT RANGE AND TENTATIVE SPECIFICATIONS OF JUTE AGROTEXTILES

Sl. No. & product	Size/capacity	Weight (tex/gsm)	Tenacity(g/t)/ Strength (N)	Open area (%)
1. Twine & rope	2mm- 10mm diameter	1200-5000 tex	10-12 g/t	-
2. Cut piece	20cm*20cm- 1.5m*1.5m	200-300 gsm	1000-1200N	20-30
3. Bag ( pillow type/gusseted )	10-50 kg. capacity	200-600g/bag	1001-2000N	5-20
4.Non-woven	Width up to 1.5m	500 gsm	40-50 N	-
5.Open mesh fabric	Width 122cm	292 gsm	1000N	70
6.Open mesh & dyed	Width 122cm	450 gsm	1300N	40
7.Carry bags with sling	20cm*30cm	40 g/bag	700N	30

TABLE IIA : PRODUCT SELECTION GUIDE FOR THE AGROTEXTILES

USES	P R O D U C T S						
	1	2	3	4	5	6	7
Tieing/bundling plant/straw/fruit/flower							
Cover for root/leaf/flower							
Packing grains/seeds/fruit							
Weed control							
Soil conservation and mulch on seed bed							
Nursery shed cover							
Transportation of saplings/young plants							

**CONCLUSION:** The advantages of the jute based geotextiles and agrotextiles are highlighted below.

1. The products are cheaper than any other materials in these fields of application
2. Installation is very easy and any person with a short training at site can do the job.
3. Degradable and becomes part of soil with a short period leaving no toxic material during degradation.

The Division of the mill has engaged experts for development of similar products for satisfying various requirements of the buyers and the mill is capable of supplying any material made of jute satisfying the requirements.



## EDITORIAL

### *Technical Editor of the EUROFLAX Newsletter have passed away*

We are very moved by the fact that our Institute colleague, Mrs. Jolanta Kraus, passed away on May 21, 2004 due to a tragic car accident. We have lost a very honest and diligent friend, involved in the Network editorial activity from the very beginning. She has edited all 20 issues of the EUROFLAX Newsletter as well as most of the Proceedings of the Network events. She acted as a Technical Editor of the "Journal of Natural Fibers" as well. Jolanta graduated from Poznan University; where she had studied the French language and culture, and later she has completed several courses in the scope of scientific information gaining and processing, as well as editorial once. We will always remember her significant input in Network activities, the wise and clever pieces of advice, her sense of humour, positive and tolerant attitude to other people.



### **Experts, who have devoted their lives to bast fibrous plants**

#### **Mr. Anwar Allam, Egypt**

*Prepared by Mr. Anwar Allam, Egypt, 73 Road 9, Maadi, Cairo, Egypt /47 Jenny Wrenway, North York, Ontario M2H 2Y8, Canada, Telephone: 202-351-9153 (Cairo) /1-416-494-3960 (Canada)*

*Fax: 202-350-466 (Cairo) /1-416-494-6256, E-mail: [ahegazy@commnet.com.eg](mailto:ahegazy@commnet.com.eg) (Cairo) /[TheAllams@myna.com](mailto:TheAllams@myna.com) (Canada)*

I am finishing my 91 years of age, from which 68 years have, to date, been consecrated to Vegetal fibers, mainly FLAX.

During this comparatively long journey, I encountered so many difficult problems that I had to solve or accept my failure, abandon my job and shift to something less complicated, as many others did. Instead, I accepted the challenge every time, tried and succeeded, by further studies, to find the right solution and carried on. Trouble-shooting became one of my hobbies.

With time, I liked my job so much that I had to sacrifice other important obligations and even my leisure time, to do some experiments or think over a sudden intuition for new ideas serving these unjustly condemned fibers.

When at the age of 60, according to local work regulations, I had to leave and go on retirement fund, I had in mind a most important problem still left behind unsolved: to find a new scientifically based method of vegetal fibers' extraction, capable of obtaining constantly pure fibers, completely separated from the other plant's tissues.

Thanks to GOD who gave me the faculty of thinking, with perseverance and helped by my long diversified experience, I succeeded in discovering a most reliable, efficient and safe method of vegetal fibers' extraction, allowing the constant production of pure fibers keeping all their excellent textile characteristics unaffected.

I feel that I have achieved my assignment loyally and successfully.

Could you recommend me (at the coming conference in BOSNIA) to obtain the:

1. Award of SENIORITY, among flax and other bast fibers' researchers and experts.
2. Award of Scientific activities within the frame of the Network, leading to the most influential discovery for the revival of flax and other bast fibers cultivation and Industries.

Please reply, giving your comments, if any.

Thanks and regards,

Expert / Advisor  
Eng. Anwar M. Allam  
**ANWAR M. ALLAM**

#### **PERSONAL DATA-the CV**

Name: Anwar M. Allam

Date and place of birth: January 8, 1914 in Cairo, EGYPT

Citizenship: Egyptian /Canadian

Address: 73 Road 9, Maadi, Cairo, Egypt /47 Jenny Wrenway, North York, Ontario M2H 2Y8, Canada

Telephone: 202-351-9153 (Cairo) /1-416-494-3960 (Canada)

Fax: 202-350-466 (Cairo) /1-416-494-6256

E-mail: ahegazy@commnet.com.eg (Cairo) /TheAllams@myna.com (Canada)

#### **EDUCATION:**

Primary and secondary education at French Catholic Schools. Graduated as an Agricultural Engineer from The Egyptian University, faculty of Agriculture, at Cairo, in June 1936.

#### **POSITIONS OCCUPIED, DATES AND FUNCTIONS:**

- |              |  |
|--------------|--|
| 1936-1943    | – Plant Engineer - Chief Agricultural dept - Plant manager. Societe Misr pour le Lin   |
| 1943-1945    | – Flax Expert, Egyptian representative with The British Flax Control Buying committee, during WW II, with a special assignment: to teach the proper ways of producing better fibres to the Egyptian flax factories. Mission accomplished successfully.   |
| 1945-1946    | – Flax Advisor. Rye, Evans & Co. and Orient Linen Industry. Improved flax production at the first and promoted and assisted the production of flax yarns to fine counts, from Egyptian flax fibres, in the second.   |
| 1947-1956    | – Co-owner and managing director. Promoting and building the biggest modern complex for the processing of the flax straw, the production of flax fibres, the production of coarse flax tow yarns, the production of boiled linseed oil and the production of flax particle boards. This complex was financed by Robert , Edmond Huri and Co. |
| 1956-1959    | – Expert/Advisor with Tanta Flax and Oil Co, which took over the previous named complex.   |
| 1959-1962    | – Expert/Advisor - Director general - Managing Director, with Orient Linen Industry.   |
| 1963-1976    | – Director General - President and Chairman with Tanta Flax and oil Co.  |
| 1976-to date | – Expert/Advisor with The Flax Producers Agricultural Cooperative Association, promoting and assisting the production of improved Egyptian flax fibres suitable for fine spinning, in the members' small flax factories  |

#### **SUCCESSFUL RESULTS OBTAINED AFTER RESEARCHES DONE DURING FLAX LIFE TIME:**

Cultivation of flax in lower Egypt:

- – Reduction of flax sowing seeds from 75-85 kgs per acre to 25-30 kgs
  - – Fixing the best flax seeds sowing date: First week of November: to maximize the flax straw crop (containing the fibres).
  - Maximizing the flax seeds crop: from an average of 450 kgs per acre to 900 kgs, without affecting the natural characteristics of the fibres.
  - Proving practically that the dual purpose flax crops can produce good fibres and good seeds without any bad effect on both the fibres quality (suitable for fine spinning) and the high oil content of the seeds (42%)
  - Promoting a new rotary combing flax deseeding machine with a new helicoidal pinning with a much bigger producing capacity than the ones existing.
  - Promoting and growing successfully good dual purpose flax and linseed flax on Arab League the desert newly reclaimed land.



**Flax Processing in Egypt :**

- Flax fibre extraction by a water treatment .A successfully tested new method, using Osmotic pressure to liberate the fibres from the surrounding plant tissues smoothly without affecting their natural good textile characteristics .
- Maximization of turbine scutching capacity and yield of long fibres, through flattening of the straw before breaking and reducing the number of breaking rollers by 50%.
- Setting a new grading system according to: length, fineness and strength ,to satisfy every client's requirement by a type number from 1 to 27.

**Flax Spinning:**

- Maximization of flax yarn tensile strength: by establishing a new way of drawing the flax slivers going to the drawing frames, always starting with the root end side. The strength increased 30%.

**Special assignments:**

- A study and an edition of a book explaining how to build a complex to process flax dual crop and its derivatives For the Industrial promoting center of the Arab League
- A study and a full report on the flax industries in Egypt. For the Agricultural group in the Egyptian Parliament.
- A thorough study ,on site, and advising about the retting process to be used for the extraction of kenaf fibres in the Sudan. For the government of Sudan.
- Heading a ministerial committee for the study of flax industries in Egypt and a special assignment to reorganize the relation between the Agricultural sector, the Industrial sector and the Commercial sector.
- Supplying scientific information concerning flax to students preparing for a Master or a Ph.D degree in flax cultivation, processing, marketing or economy.

**LETTERS TO THE EDITOR****Flax In North America**

Thu, 01 Jan 2004 From: Timothy Niedermann <tniedermann@videotron.ca>  
Subject: Flax In North America

Dear Prof. Kozlowski,

I read the most recent Euroflax Newsletter and wish to give you a short update on fibre flax production here. The flax machinery owned by Fibrex Québec, in Valleyfield, Quebec, have been sold to a foreign producer and have been exported. Eastern Flax Ltd, which owned flax machinery in Maine and South Carolina, has closed.

Eastern Flax Ltd never built a mill in Maine, and thus never produced flax there. It had bought the equipment owned by US Flax and Linen Inc., dismantled the mill that existed in Presque Isle, Maine and put the machinery in storage. Most of the agricultural machinery there was subsequently sold in Europe. The Eastern Flax Ltd facility in South Carolina operated for a while but has closed permanently.

Thus, I am sorry to report that no fibre flax production currently exists in North America.

Regards, Timothy Niedermann, Former President US Flax & Linen Co. Inc., Former Managing Director, Fibrex Québec.  
112, rue Percival, Montréal Ouest (Québec, Canada H4X 1T5, tél (514) 487-2243, cell (514) 831-5903, courriel  
tniedermann@videotron.ca

**NEWS ABOUT THE EUROPEAN PROJECTS WITH INVOLVEMENT OF NETWORK MEMBERS****COST ACTION 847 “Textile Quality and Biotechnology”**

Website: <http://www.vtt.fi/bel/cost847/>

**COST** = European Co-operation in the Field of Scientific and Technical Research. COST is an European program, served by the European Union in Brussels.

Twenty one COST countries had signed the Memorandum of Understanding to participate in the COST Action 847. The number of registered scientists is 95: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, the Netherlands, Poland, Portugal, Romania, Serbia and Montenegro, Slovenia, Spain, UK

**The period:** from June 15, 2000 to February 2005

**The basic document:** Memorandum of Understanding: MoU 245/00

**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, <http://www.vtt.fi/bel>

**Vice-Chairperson:** Prof. Dr. Shekhar Sharma, The Queen's University of Belfast, Department of Applied Science, Faculty of Agriculture & Food Science, Newforge Lane. Belfast BT9 5PX, N. Ireland, tel.: +44/ 1232 250 666, fax: +44/1232 668375, E-mail: Shekhar.Sharma@dani.gov.uk

**The managing body: Management Committee (MC). Action Web site:** <http://www.vtt.fi/bel/cost847> (Note: look for the abstracts of the Meetings' presentations).

The **main objective** of this Action is to develop environmentally friendly production technologies for the textile industry by using enzymatic processes. By using these biotechnical methods, energy or chemicals can be saved or, alternatively, the final product quality can be improved. In the COST action, new applications using enzymes acting on both cellulose- and protein based textile materials will be studied and developed. This will be achieved by exchanging research information within European research units active in textile biotechnology oriented research.

More details about activities of the Cost Action 847 were presented in Euroflax Newsletter No 17

***The meetings regarding the COST Action 847 activities:***

- COST 847 Meeting of WG 1 and WG/4 in Belfast, Ireland, 29-30.1.2004
- COST 847 WG 2 and WG 3 Meetings, 26-27.02.2004, Maribor, Slovenia
- INTB04. 3rd International Conference on Textile Biotechnology, 13-16.06.04, Graz University of Technology, Austria in connection with the Annual Workshop of COST Action 847. Contact person: Dr. G.M. Guebitz, Professor, HOD, Graz University of Technology, Department of Environmental Biotechnology, Petersgasse 12, A-8010 Graz, Austria, Tel: (+43) 316 873 8312, Fax: (+43) 316 873 8815, Mobile: (+43) 664 5722600, E-mail: guebitz@ima.tu-graz.ac.at, [www.guebitz.com](http://www.guebitz.com). Note, that the texts of presentations dealing with natural fibres will be published as a special edition of the Journal of Natural Fibers, printed by the HAWORTH Press Inc. , New York, USA
- COST 847 WG 1 and WG 2 Meetings, 23-24.09.2004, Budapest, Hungary
- COST 847 Management Committee Meeting, 28-29.10.04, Sofia, Bulgaria
- COST 847 WG3 and WG5 Meeting and Meeting of D32, 11-12.11.04, Povia de Varzim, Portugal
- COST 847, Final Workshop, Gran Canaria, Spain 20.2-22.2.2005



## NEWS REGARDING PUBLICATIONS ON NATURAL FIBRES

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

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

A publication that was probably the only one 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. The publication is advised by the international team of Honorary Editors: Mr. A.M. Allam/Egypt, Mr. A. Atanassov/Bulgaria, Mr. A. Bledzki/Germany, Mr. A. Daenekindt/Belgium, Mr. D. M. El-Hariri/Egypt, Mr. H.P. Fink/Germany, Ms. U. Kechaiga/Greece, Mr. R. Kessler/Germany, Mr. P. Kolodziejczyk/Canada, Mr. J. Lappage/New Zealand, Mr. M. Lewin/USA, Mr. B. Mac/Poland, Mr. G. Mackie/Northern Ireland, Mr. T. Matsuo/Japan, Ms. C. Morvan/France, Mr. F. Munder/Germany, Mr. K. Perepelkin/Russia, Ms. Anna Pretova/Bulgaria, Mr. R.M. Rowell/USA, Mr. Shen Anjing/China, Mr. D. Sorlino/Argentina, Mr. H. Tokura/Japan, Mr. G. Venturi/Italy, Mr. Zainal Arifin M. Ishak/Malaysia, and Mr. V.V. Zhivetin/Russia, Mr. Subhash K. Batra / USA, Mr. L. Hes/ Czech Republic, Mr. D. Raghavan/India, Ms. A. Riva/Spain, Mr. A. Wlochowicz.

Since 2004 *Natural Fibres* is replaced by a new quarterly *Journal of Natural Fibers*.

## JOURNAL OF NATURAL FIBERS

*Journal of Natural Fibers*, a quarterly edition, is published by the recognized publishing house The Haworth Press, Inc. in New York, 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

*Journal of Natural Fibers*, Volume 1, No. 1 (Charter Issue) Contents (appeared in October 2004)

1. Colombia Emerges as a Leading Country to Develop Sericulture (Cesar Augusto Cifuentes C., Colombia)
2. Advanced Decortication Technology for Unretted Bast Fibres ( F. Munder, Ch. Furl, and H. Hempel, Germany)
3. Flax Latest Diagnostic ( A. Allam, Egypt)
4. International Strategic Network for the Utilization of Fibrous Crops ( H. Burczyk, Poland)
5. Information About the Institute of Natural Fibres

## EUROFLAX Newsletter

**Information Bulletin EUROFLAX Newsletter – 21 issues since 1994** (100 printed copies, reaches subscribers and Network members in 51 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](mailto: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](mailto: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

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

## OTHER RELATED PUBLICATIONS

### Industrial Crops

- 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](mailto: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, Telephone: (403) 507-5206, Fax: (403) 507-7977, E-mail: [relvestad@admin.oldscollege.ab.ca](mailto:relvestad@admin.oldscollege.ab.ca), [www.occia.ab.ca](http://www.occia.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](mailto:hempflax@inf.poznan.pl)
- 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](mailto: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, Władyka-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., Władyka-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. 5 th 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-Znaniye, 2002. Moscow, Russia
- Gennady E. Zaikov (N. M. Emanuel Institute of Biochemical Physics, Moscow, Russia), Ryszard Kozłowski (Institute of Natural Fibers, Poznan, Poland) - Editors: CHEMICAL AND PHYSICAL PROPERTIES OF POLYMERS , NOVA SCIENCE PUBLISHERS, INC., NY, USA, 2005. ISBN: 1-59454-206-6.

### Hemp

- Journal of Industrial Hemp – the journal of the IHA (E-mail: [iha@euronet.nl](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:jfreeman@ssm.net), <http://www.hempreport.com>
- John E. Dvorak, E-mail: [boston.hemp@pobox.com](mailto: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

## INFORMATION ABOUT INTERNATIONAL CONFERENCES ON NATURAL, LIGNOCELLULOSIC FIBRES AND TEXTILES

2004

**Events organized by the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants**

➤ October 24-28, 2004, **“BAST FIBROUS PLANTS FOR HEALTHY LIFE” - 3<sup>rd</sup> GLOBAL WORKSHOP (GENERAL CONSULTATION) OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS**, Banja Luka, Republika Srpska, Bosnia and Herzegovina,. Contact person in Bosnia and Herzegovina: BSc. Miloš Nožinic, Agricultural Institute of Republic of Srpska, Banja Luka, K. Miloša 17, T: +387 51 309678, mob. +387 65 624 458, F: ++387 51 312-792, E-mail: [polj.institut.bl@blic.net](mailto:polj.institut.bl@blic.net). Contact person of the Coordination Centre: MSc Maria Mackiewicz-Talarczyk, Tel.: +48/61/ 8 455 823, mobil: +48/604 16 91 15

**Conferences with the Network's and the Institute of Natural Fibres organization input:**

- March 2-4, 2004. **The 7<sup>th</sup> All-Russian Fair/Exhibition/Conference „Russian Flax”**, Vologda, Russia. Organizer: FGUP TSNILKA - The Federal State Enterprise - Central Scientific-Research Institute for Integrated Automation of Light Industry, Contact: Fair Exhibition Organization Center: “Flax House” Federal State Enterprise, ul. Shabolovka 26, 117049 Moscow, Russia, Tel/Fax: +70 (95) 237-35-45. 237-12-55. 236-63-32, E-mail: [nauka@tsnilka.ru](mailto:nauka@tsnilka.ru)
- March 17-19, 2004. **60<sup>th</sup> FLAX INSTITUTE conference**, Wednesday evening, Registration/Visiting, Thursday and Friday a.m. Program, at FARGO, ND, at Doublewood Inn (Ph. 1-800-433-3235, 13th Ave. South, exit from I-29 at 13th Ave. South, east 4-5 blocks). Room reservations also can be made via e-mail at [bwdoublewood@corpcom.net](mailto:bwdoublewood@corpcom.net) or phone +1/ 701-235-3333. Contact person: Ms. Lisa Johnson <[lisa.johnson@ndsu.nodak.edu](mailto:lisa.johnson@ndsu.nodak.edu)> for more details.
- March 5 -6, 2004, **International Symposium “Hemp: Perspectives for Advanced Utilization”**, Novotel, Villanova di Castenaso (Bologna), Italy. Organiser: Experimental Institute for Industrial Crops. Bologna. Contact person: Dr. Paolo Ranalli, Istituto Sperimentale per le Colture Industriali, Viadi Corticella 133, 40128 - Bologna Tel. +39(051)6316847, Fax +39(051) 374857, E-mail: [p.ranalli@isci.it](mailto:p.ranalli@isci.it), <http://www.isci.it/home.html>
- March 29-30, 2004. **International Bast & Leaf-Fiber Textile Conference**, Beijing, China followed by the four important exhibitions-Yarn Expo, Knitting China, CHIC, and Intertextile from March 31 to April 3. Organisers: Mr. Zhao Hong Director, International Trade Office, China National Textile Industry Council V. President, China Textile International Exchange Center and Mr. Zhang Shiping, President China Bast & Leaf-fiber Textile Association, Beijing, China. E-mail: [hongchinatex@yahoo.com.cn](mailto:hongchinatex@yahoo.com.cn)
- April 27 -28, 2004. **5<sup>th</sup> Global Wood and Natural Fibre Composites Symposium**, Kassel, Germany. Organized by Prof. Prof. A.K. Bledzkiego, [www.kutech-kassel.de](http://www.kutech-kassel.de)
- June 07 -08, 2004. **10 International Conference for Renewable Resources and Plant Biotechnology NAROSSA® 2004**, Magdeburg, Germany. Contact person: Dr. Frank Pudiel, ÖHMI Consulting GmbH, Berliner Chaussee 66, D-39114 Magdeburg, Tel: +49-391-8507-171, Fax:+49-391-8507-150, E-mail: [pudiel@oehmi-consulting.de](mailto:pudiel@oehmi-consulting.de), [www.oehmi-consulting.de](http://www.oehmi-consulting.de). The event is conducted in conjunction with the international Fair (7-9.06.2004) and the European Technology-Brokerage (Contact: Helga Ilchmann, E-mail: [ircpost@tti-md.de](mailto:ircpost@tti-md.de))
- June 13-16, 2004. **INTB04, 3rd International Conference on Textile Biotechnology 2004**, Graz University of Technology, Austria (the 3<sup>rd</sup> Annual Workshop of COST Action 847). Contact person: Dr. G.M. Guebitz, Professor, HOD, Graz University of Technology, Department of Environmental Biotechnology, Petersgasse 12, A-8010 Graz, Austria, Tel: (+43) 316 873 8312, Fax: (+43) 316 873 8815, Mobile: (+43) 664 5722600, E-mail: [guebitz@ima.tu-graz.ac.at](mailto:guebitz@ima.tu-graz.ac.at). [www.guebitz.com](http://www.guebitz.com)

Other conferences, symposia and meetings joint with natural fibres and textiles in 2004

- March 26, 2004. **Fifth Intersessional Consultation on Natural Fibres**, FAO Headquarters, Rome, Italy. Contact person: Dr. Brian Moir. E-mail: [Brian.Moir@fao.org](mailto:Brian.Moir@fao.org)

- May 10 –14, 2004. **2<sup>nd</sup> World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection**, Palazzo dei Congressi, Rome, Italy. See preliminary conference programme on-line on: [www.conference-biomass.com](http://www.conference-biomass.com)
- May 17 – 20, 2004. **Spring Symposium on Fibers, Fibrous Structures and Filtration**, Radisson Hotel, Clayton (St. Louis) Missouri USA, The Fiber Society, [www.thefibersociety.org](http://www.thefibersociety.org)
- May 23-27, 2004, **The Textile Institute 83rd World Conference. Quality Textiles for Quality Life**. Shanghai, P. R. China, Contact: 83rd TIWC Secretariat, College of Textiles, Donghua University (formerly China Textiles University), Shanghai 200051, P. R. China, Fax: ++86-21-62193061, E-mail: [ti04shanghai@dhu.edu.cn](mailto:ti04shanghai@dhu.edu.cn)
- May 31 and June 1, 2004. **4<sup>th</sup> Annual FIBREX CONFERENCE**, Edmonton, Canada, followed by PULP AND PAPER TECHNICAL ASSOCIATION OF CANADA (PAPTAC) Non-wood Fibres Committee meeting and Symposium on June 2<sup>nd</sup> and 3<sup>rd</sup>. Organised by the Alberta Research Council (Canada) and Natural Fibre Association of Brandenburg (Germany).. Contact person: Paul F. Layte, P. Eng. Vice-President, Advanced Materials, Sensors and Intelligent Systems. Tel: +1/780-450-4639, E-mail: [layte@arc.ab.ca](mailto:layte@arc.ab.ca)
- June 7 - 9, 2004. **The Fifteenth Annual BCC Conference on Flame Retardancy; Recent Advances in Flame Retardancy of Polymeric Materials**. Holiday Inn Select, Stamford, CT, USA, Contact: Sharon Faust - conference coordinator, Phone: (203) 853-4266, ext. 304, E-mail: [conference@bccresearch.com](mailto:conference@bccresearch.com), <http://www.bccresearch.com/flame2004/>
- June 24 - 26, 2004. Anniversary of Textile Science and Engineering at Ghent University/Belgium, International Conference on Intelligent Textiles, Ghent, Belgium, following the 4<sup>th</sup> AUTEX Conference (Roubaix, France). Contact: Judith.Kenis@UGent.be, <http://textiles.ugent.be/75textiles/>
- July 7-8<sup>th</sup>, 2004. **Eco Textile 04, "The way forward to Sustainable Development in Textiles"**, The Bridgewater Hall, Manchester (organized by Textile Institute)
- August 8-13, 2004. **Eleventh International Conference on Composites/Nano Engineering, ICCE-11**. Hilton-Head Island, S. Carolina, USA. Contact person: Prof. Dr. David Hui, E-mail: [DHui@uno.edu](mailto:DHui@uno.edu), [www.uno.edu/~enr/composite](http://www.uno.edu/~enr/composite)
- August 18-21, 2004. II International Conference **Plant Ontogenesis in Natural and Transformed Environments. Physiological and Biochemical Aspects**, L'viv, Ukraine. Contact person: Mrs. Nataliya Shuvar, Plant Physiology and Ecology Dept., Ivan Franko National University of L'viv, Hrushevs'ky St., 4, L'viv, 79005, Ukraine. Tel.: +38 (0322) 96-43-34, E-mail: [onto2004@franko.lviv.ua](mailto:onto2004@franko.lviv.ua), <http://bioweb.franko.lviv.ua>
- August 25 – 28, 2004. **The First EuroScience Open Forum 2004- ESOF2004**, , 2004, Stockholm, Sweden
- September 7 –11, 2004. **XXI National textile Technicians Congress and VII National Textile Industry Fair, II International Symposium in Textile Engineering II SIENTEX**, Convention Centre – Natal Rio Grande do Norte, Brazil
- 24 September, 2004 **International Conference on Environmentally – Compatible Forest Products – ICECFOP**, 22, Oporto, Portugal
- October 3 - 6, 2004. **Magic World of Textiles, 2<sup>nd</sup> International Textile, Clothing @ Design Conference**, Dubrovnik, Croatia. Organised by: Univeristy of Zagreb. Contact person: Contact person: Prof. Dr. Zvonko Dragčević, Phone/Fax: ++385 1 37 02 599, E-mail: [zvonko.dragcevic@zg.htnet.hr](mailto:zvonko.dragcevic@zg.htnet.hr), [zvonko.dragcevic@ttf.hr](mailto:zvonko.dragcevic@ttf.hr), <http://www.itcdc.htnet.hr>
- October 11–13, **The Fiber Society's Fall 2004 Annual Meeting and Technical Conference** being held at Cornell University, see website at <http://fs.tx.ncsu.edu/>
- October 10-14, 2004. 9<sup>th</sup> International Conference on Biotechnology in the pulp and Paper Industry. "Scaling Up", Durban, South Africa. Website <http://pulpconf.dit.ac.za>
- October 24 - 28, 2004. **Global Workshop of the FAO/SCORENA Network**, Bosnia and Herzegovina (see the circular above)
- October 31 - November 02, 2004. **7<sup>th</sup> Pacific Rim Bio-Based Composites Symposium & Pre-Symposium Workshop on Surface characterization of Wood**, Nanjing, P. R. China, Organized by Nanjing Forestry University.

#### Internet conferences:

- **First International Internet Conference: Progress in Textile Science and Technology (FIICPTST), Technical University, Liberec, the Czech Republic** opened on the web sites on the address <http://gacr.kod.vslib.cz> from the 20th January 2004 and will be lasted to the 31<sup>th</sup> May 2004. Contact person: L. Sodomka. E-mail: [lubomir.sodomka@vslib.cz](mailto:lubomir.sodomka@vslib.cz)

#### 2005

- January 28-31, 2005. **1<sup>st</sup> International Textile Educational Conference**, Chennai, India. Contact person: Cavalier M. S. Mathivanan, Ph.: + 91-4288-264755, 267702, fax: +91-4288-265705, E-mail: [itec@edutex.org](mailto:itec@edutex.org), <http://www.edutex.org>
- April 22-28, 2005. **8<sup>th</sup> ICFPAM - 8<sup>th</sup> International Conference on Frontiers of Polymers and Advanced Materials**. Cancun, Quintana Roo, Mexico. Organized by Materials Research Institute (IIM) and Nuclear Science Institute (ICN) f National University of Mexico (UNAM), Mexico. Contact: Prof. T. Ogawa, fax: +52-55-5616-1201, E-mail: [ogawa@servidor.unam.mx](mailto:ogawa@servidor.unam.mx), Porf.G. Burillo, E-mail: [burillo@nuclecu.unam.mx](mailto:burillo@nuclecu.unam.mx)
- May 19-21, 2005. **5<sup>th</sup> International Istanbul Textile Conference: Recent Advances in Innovation and Enterprise** in Textile and Clothing, Istanbul, Turkey. Conference secretariat: ph.: +90 212 337 29 00, fax: +90 212 266 10 76, E-mail: [info@textile2005.org](mailto:info@textile2005.org)



- May 23-28, 2005. **International Conference and Exhibition “Fibrous Materials – XXI Century”**. Saint-Petersburg State University of Technology and Design (SUTD), Saint-Petersburg, Russia. Organizing Committee: Fax: + 7 (812) 315-1274, 315-1210, Tel/fax: +7 (812) 315-7470, E-mail: [interconf@sudt.ru](mailto:interconf@sudt.ru), [www.sudt.ru/interconf-fm-XXI.html](http://www.sudt.ru/interconf-fm-XXI.html)
- June 27-29, 2005. **World Textile Conference AUTEX 2005**, Portorož, Slovenia. Organized by University of Maribor, Faculty of Mechanical Engineering. Contact: tel.: +386 (0) 222 07 910, +386 (0) 222 20 7896, <http://autex2005.ts.uni-mb.si>
- **11<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005**, June 5-7, 2005, Institute of Natural Fibres (INF), Poznan, Poland. Organizing teams: ÖHMI Consulting GmbH, Managing Director, Dr. Frank Pudel, Berliner Chaussee 66, D-39114 Magdeburg, Tel: +49-391-8507-171, Fax: +49-391-8507-150, Mobil: +49-175-5734085, email: [pudel@oehmi-consulting.de](mailto:pudel@oehmi-consulting.de), [www.oehmi-consulting.de](http://www.oehmi-consulting.de); Prof. Dr. Ryszard Kozłowski and his team of the Institute of Natural Fibres, Poznan, Poland, , Ul. Wojska Polskiego 71b, 60-630 Poznan, Poland, tel.: +48/61/8 48 00 61, Fax: +48/61/ 8 41 78 30E-mail: [sekretar@inf.poznan.pl](mailto:sekretar@inf.poznan.pl), <http://www.inf.poznan.pl>, All information will be at: [www.narossa.de](http://www.narossa.de) (in the construction)
- September 17-21, 2005. **International Conference on Industrial Crops and Rural Development 2005** Association for the Advancement of Industrial Crops (AAIC) Annual Meeting, Murcia, Spain. Contact: Dr. Maria Jesus Pascual-Villalobos, Tel: 34 968 366768, Fax: 34 968 366792, E-mail: [MJesus.Pascual@carm.es](mailto:MJesus.Pascual@carm.es), website: [www.aaic.org/2005mtg.htm](http://www.aaic.org/2005mtg.htm), Title and author submission deadline: 30 April 2004

## REPORTS ON THE EVENTS

### Information about the 10<sup>th</sup> International Conference for Renewable Resources and Plant Biotechnology NAROSSA-2004 in Magdeburg – Germany

*Prepared by: Henryk Burczyk, Deputy Director, Instytut Włókien Naturalnych (Institute of Natural Fibres), ul. Wojska Polskiego 71b, 61-630 Poznań, Poland, E-mail: sekretar@inf.pzn.pl*

On 07-08 June 2004 the 10<sup>th</sup> International Conference for Renewable Resources and Plant Biotechnology NAROSSA-2004 took place. The Congress was organized by ÖHMI Consulting GmbH in Magdeburg with cooperation of the Institute of Natural Fibres in Poznań, Poland, and German organizations: Bio Mitteldeutschland, Stadtparkasse, ÖHMI-AG and Pilot Pflanzenöltechnologie Magdeburg e.V.

The Congress was attended by 140 representatives of science, politics, economy, industry and small and medium enterprises from Germany, Poland, Austria, Hungary and Czech Republic. Representatives of universities, research institutes and development (innovation) organizations presented 50 oral presentations during scientific sessions and presented research results and their economical applications on 40 posters.

The main objective of the Congress was presenting the latest results of research in plant biotechnology, production and multi-directional utilization of renewable raw materials, including the following problems:

- I. Plant biotechnology – opening the way for breeding new cultivars of crops used as renewable raw materials. According to recent research results the authors presented the potential of biotechnology and the most important methods and technologies of its utilization.
- II. Renewable raw materials in such application as fiber composites, wood-, cellulose-, starch-, protein-based materials and fermentation products.
- III. Characteristics, processing and application of secondary substances by purification, analysis, pharmacological and clinical testing.
- IV. Utilization of biomass for energy production. New possibilities for obtaining biogas, liquid biofuel and biomass-based unconventional energy, etc.

Among presented lectures the following are worth special attention:

1. M. Kern: Understanding the strategic potential of plant genetic engineering: Renewable resources. Frankfurt (Main).
2. W.E., Weber, P. Wilde at al.: Rye breeding with regard to starch content and other raw material characteristics. Halle, Bergen.
3. K. Nebel: Chamaeleon – Technological potentials of a new hemp sort. Reutlingen.
4. G. W. Rathke at al.: Cultivation of fast – growing tree species and Miscanthus in the Central German arid area. Halle.
5. T. Schulz: Investigations to the utilization of rye straw in the production of chipboards. Dresden.
6. W. Koncewicz at al.: Utilization of essential oils obtained from hemp panicles as raw material for production repelling insects. PL-Poznań.
7. C. Behns at al.: Hot steam fluidized bed extraction for the recovery of essential oils from plant materials. Magdeburg.
8. H. Burczyk, R. Kozłowski: The latest development of Institute of Natural Fibres in lignocellulosic plants processing and application. PL-Poznań.
9. F. Munder n.an.: Mechanical properties of bast fibres. Potsdam-Bornim.
10. D. Zurawski, R. Stegman: Fermentative production of bio-hydrogen from biogenic raw and waste materials. Hamburg.
11. U. Gabbert, F. Pudiel at al.: Computational design, compounding and verification of natural fibre composites for industrial applications. Magdeburg.

Simultaneously, on 07.06-09.06.2004, an International Fair took place in Magdeburg. The Fair light motive was utilization of renewable resources. The exhibitors presented new techniques and technologies currently implemented into industrial practice. Especially interesting were modern methods for producing construction and insulation boards, liquid and gaseous biofuels and energy obtained by unconventional methods.

The subject protectorate over the 10<sup>th</sup> International Conference and International Fair was held by the Minister of Agriculture and Environmental Protection of Land Saxony-Anhalt, who presented two state prizes to the following companies:

- ROMONTA – CERALITH GmbH and
- COBBELSDORFER NATURSTOFF GmbH,

for implementing new technologies of renewable resources utilization, improving economical effects and increasing employment.

Both, oral presentations and posters, as well as numerous comments of Congress participants and items presented by the exhibitors show that production and utilization of renewable raw materials can be an important factor of economical

revitalization in the EU countries. In situation of food overproduction, these raw materials can be an additional source of income for farmers, small and medium enterprises and processing industry. By this they have an impact on reduction of unemployment and improving economical conditions in rural areas.

Summing up it should be noticed, that simultaneous presentation of results during the Congress and methods of their application in practice during the Fair is an effective method for introduction and increasing innovativeness in economical activity.

At closing of the 10<sup>th</sup> International Conference it was announced that NAROSSA'2005 will be held on June 5-7, 2005 at the Institute of Natural Fibres in Poznan, Poland.

Detailed materials and oral presentations of NAROSSA'2004 have been published on the CD-ROM by the ÖHMI Consulting GmbH, D-39114, Magdeburg, Berliner Chausse 66, and posters – on the Internet at [www.narossa.de](http://www.narossa.de) and are available for interested people and institutions from Dr. Frank Pudel.

Poznan, June 25, 2004

---

### **Report on the International Conference: “Intensification of the Mechanization of Harvesting and Processing Technologies of Flax”, July 13-17, 2004, Tver, Russia.**

The conference has been connected with the exhibition of technological equipment and machines for flax harvesting and processing at the Flax Research & Engineering Institute (VNIPTIML) in Tver), the organizer of the event.

Fourteen (14) oral presentations were presented during this event, dealing with: the Russian Ministry of Agriculture policy in the scope of mechanization of flax processing, with effective mechanization of flax cultivation, extraction and processing and the relevant research in Ukraine, Belarus, Russia including specific conditions in Siberia, in Poland; problems connected with modern production of raw materials and equipment for flax cultivation, extraction, harvesting and processing, including advanced mechanical enrichment and modification of flax fibre; aspects of competitiveness.

The event included the round table discussion of the scientists with the representatives of flax farming and machine constructing enterprises. The attendees have visited the flax fields (research and production) as well and the Institute of Flax in Torzhok.

The Network has been represented by Prof. Dr. Ryszard Kozlowski, who presented the lecture describing the perspectives of the development of flax processing in Europe.

---

## STATISTICAL DATA ON FLAX

## FLAX CULTIVATED AREA IN THE WORLD [ha]

## FIBROUS FLAX

	1998	1999	2000	2001	2002	2003	2004
AUSTRIA	*635	*350	*450	*130	154 <sup>x</sup>	142 <sup>x</sup>	110
BELARUS	80000	***70000	81800	°	67333 <sup>°</sup>	71708 <sup>°</sup>	79146
BELGIUM	**11211	**12176	****13355	****16990	15567 <sup>x</sup>	19250 <sup>x</sup>	19800 <sup>*/</sup>
BULGARIA	***58	***58	300	210	470	150 <sup>°</sup>	70
CHINA	***101000	***101000	°	°	°	°	
CZECH REPUBLIC	4117	6348	6302-linseed; 2240-fibre flax	7095	5885	5900	5500
DENMARK	*44	11	*45	*19	0 <sup>x</sup>	0 <sup>x</sup>	
EGYPT**	14000	14500	°	°	°	°	
ESTONIA	***323	115	240	27	30	°	
FINLAND	613	850	*1067	*405	202 <sup>x</sup>	97 <sup>x</sup>	67
FRANCE	*43708	*49129	****55629	****67970	68416	76439 <sup>x</sup>	80000 <sup>*/</sup>
GERMANY	*416	*570	402*	*297	299 <sup>x</sup>	225	180
IRELAND	1*	°	°	****0	°	°	
ITALY	°	°	°	****1	0 <sup>x</sup>	20 <sup>x</sup>	80
LATVIA	***2200	***2000	300-linseed; 1600-fibre flax	°	°	°	2400
LITHUANIA	6500	8600	8600	9 600	9346	°	5600
NETHERLANDS	*3306	*3570	*4016	*4415	4000 <sup>x</sup>	4615 <sup>x</sup>	4.500 <sup>*/</sup>
POLAND	2548	1223	4082	4900	4900	6000	6500
PORTUGAL	*1500	4678*	****3522*	****0	0	°	
RUSSIA	107340	104050	107 610	127 361	110 380 <sup>°</sup>	°	117 000
SPAIN	*87727	*122400	****13595	*342	60 <sup>x</sup>	2 <sup>x</sup>	
SWEDEN	*320	*1327	*21	****32	25	0	30
UKRAINE	31200	***21900	19300	28280	28200	27000 <sup>°</sup>	38290
UNITED KINGDOM	*16700	*14000	****11816	*4430	156 <sup>x</sup>	175 <sup>x</sup>	1820

Total flax cultivated area in 15 EU countries: in 2000 \*\*\*\*103867 ha, in 2001 \*\*\*\*94631ha, in 2002 : 88 885ha, in 2003: 98 965.

Source: Generally, data provided by relevant countries

\*/A. Daenkindt: Algemeen Belgisch Vlasverbond, Oude Vestingsstraat 15, B-8500 Kortrijk, Belgium

\*/D.M. El-Hariri, Dept. of Fibre Crops, NRC, Egypt

\*\*\*FAOSTAT Statistical Database Results 1997 <http://apps.fao.org>

\*\*\*\*

/ 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

\*\*\*\*\* Polish Flax and Hemp Chamber

x/

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

**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, issue No: 17, September 10, 2004, 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 161.13	lower quality	99.00 - 148.75
medium quality	161.14 - 185.92	medium quality	148.76 - 185.90
better quality	185.93 - 198.31	better quality	185.91 - 210.70
very good quality	bonus	very good quality	from 210.71
short fibre			
lower quality			
14.85 - 18.60 EURO/100kg			
medium quality			
18.61 - 24.80 EURO/100kg			
better quality			
24.81 - 37.20 EURO/100kg			
higher quality			
from 37.21 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: 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 0.74 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% farmer/75% scutcher).

**2000**

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

**2001**

With the crop 2001 started a new and completely modified Common Organisation 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% 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 ton for long flax fibres;
- 90 euro per ton 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/ton;

**2. Processor** (scutcher):

- 160 euro per ton for long flax fibres;
- 90 euro per ton 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.

**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**

	1997	2000	2001	2002	2003	2004
Cultivated area [ha]	73600	81800			71708	79146

sent by: S.P. Tkachev, A.V. Krugliakov, A. Lopatyniuk, BELINTERGROPROM, Minsk, Belarus (data from 1993-1995),  
P.P. Gulevich, Ministry of Agriculture of the Rep. of Belarus, Minsk, Belarus (1996, 2004)  
I.J. Jarmolovitch, Ministry of Statistics and Analysis of RB, Minsk, Belarus (2000)

**BULGARIA**

	1996	1997	1998	1999	2000	2001	2002
Cultivated area [ha]	300	200	58	58	300	210	470

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

**CZECH REPUBLIC**

	1998	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	4117	5348	6302	7 124	5885	6003	5500
Harvested [ha]	3719	5232	5911	7 124	5825	5953	
Straw yield [t/ha]	3.01	3.34	2,36	3,23	2,73	2,32	
Long fibre yield [t/ha]	0.3	0,39	0,35	0,24	0,35	0,32	
Long fibre production [t]	1235	2098	2235	1591	2100	1884	
Short fibre yield [t/ha]	0.5	0,53	0,42	0,44	0,42	0,32	
Short fibre production [t]	1835	2797	2661	3141	2 570	1928	
Percentage of dew retting [%]	100	100	100	100	100	100	
Mill consumption of flax [t]	11200	17484	16811	18526	17 508	15 161	
Linseed yield [t/ha]*of fibre flax	0.51	0.56	0,50	0,5	0,5	0,5	
Yarn production [t] (wet + dry spinning)	3850	4835	5301	4300	4150	4200	
Production of textiles [1000 m]	12160	*	*	*	*	*	
Particleboards production [m <sup>2</sup> ]		0	0	0	0	0	
Export of seed [t]	730	1340	3421	2526	2187	4 144	
Export of yarn [t]	1202	1364	1839	1430	1531	2 088	
Export of fibre [t]	100	90	267	207	226	89	
Export of linen textiles (fabrics) [1000 m]	°	*	*	*	*	*	
Export of cloth (more than 85% linen) [t]	1830	2138	2470	1996	1854	1 777	
Export of cloth (less than 85% linen) [t]	180	184	264	183	190	176	
Import of fibre [t]	2248	2925	3001	3169	3457	2 603	
Import of yarn [t]	79	349	456	279	202	358	
Import of textiles [1000 m]	°	*	*	*	*	*	
Import of seed [t]	771	561	449	356	376	527	
Import of linen cloth (more than 85% linen) [t]	16	512	609	514	568	353	
Import of linen cloth (less than 85% linen)[t]	28	76	103	78	84	74	

sent by: H. Suchomelová, P. Šmírouš, S. Krmela  
Flax Union CR, Šumperk-Temenice, Czech Republic

**ESTONIA**

	1995	1997	1999	2000	2001	2002
Cultivated area [ha]	185	323	115	137 <sup>a)</sup>	27 <sup>a)</sup>	30

sent by: Mr. Einar Kikkas, Department of Agriculture, Ministry of Agriculture, Tallinn, Estonia

## FINLAND

	1997	1998	1999	2000	2001	2002	2003
Cultivated area [ha]	943	800	850	1067	405	202	97

sent by: Juha Pirkkamaa, Agropolis Ltd, Agropolis-Engineering, FIN-31600 Jokioinen, Finland

## LATVIA

	1996	1997	1998	1999	2000
Cultivated area [ha]	1240	1600	220/2200	200/2000	300/1600

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

## LITHUANIA

	1998	1999 <sup>**/</sup>	2000 <sup>**/</sup>	2001	2002	2003	2004
Fibre Flax Cultivated area [ha]	6500	8 800	8 600	9600	9346		5600 fibre flax and 200 ha of linseed

sent by: <sup>/</sup> calculated data

sent by: <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 Ulyte Research Station, Linininku 3, Ulyte, 38 294 Panevezys Distr., LITHUANIA

## POLAND

	1998	1999	2000	2001	2002	2003*	2004*
Cultivated area [ha]	2380	1223	5100	4900	5200	3000	6500
Straw production [thous.t]	7.0		11.7	10.8	11.5	7.8	27
Straw yield [t/ha]	4.11		2.75	2.56	3.10	2.53	4.25
Long fibre yield [dt/ha]	3.2	3.7	4.5	3.5	2.9	2.8	8.0
Short fibre yield [dt/ha]	7.0		3.1	3.3	5.2	4.1	3.5
Total fibre production [thous.t]	1.9		3.2	2.9	3.1	2.2	7.5
Long fibre production [dt]	6480	7664	8777	10454	10780	23200	5000
Short fibre production [dt]	3240	3832	4388	5226	5390	11600	3500
Percentage of dew retting [%]	100	100	100	100	100	100	100
Mill consumption of flax [t]	5074.8	1882	2321°	°6123	6880	6760	
Seed yield [t/ha]	0.7	0.6	°	°	°	0.4	0.6-0.7
Yarn production [t] (wet + dry spinning)	3024	889	1362°	°5950	6669	7400	
Production of textiles [1000 m]	7658	4607	4563°	3953°	4380	4500	
Flax/Hemp Export of seed [t]	°	°	°	°	°	39/1	
Flax/Hemp Export of yarn [t]	458	°	°	°	°	3800/2	
Flax/Hemp Export of fibre [t]	°	°	°	°	°	820/12	
Export of linen textiles (fabrics) [1000 m]	4875	4480	3241°	°2371	°2550	3100	
Flax/Hemp Import of fibre [t]	2052	803	°	°	°	3790/24	
Flax/Hemp Import of yarn [t]	339	345	°	°	°	840/1	
Import of textiles [1000 m]	°	0	°	°	°	867	
Import of seed [t]	°	0	°	°	°	3967/319	

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

<sup>/</sup> estimated data; <sup>\*\*/</sup> in 1000m<sup>2</sup>; <sup>1/</sup> includes rural fibre produced in 1997 and 98. Data from 2000-2003 by Polish Flax and Hemp Chamber. Year 2003; data in files 1-11-prognosis by Polish Flax and Hemp Chamber, 12-22-data for 9 months of 2003 acc. to data of the Ministry of Agriculture and Rural Development and of Ministry of Economy.

## RUSSIA

	1996	1997	1998	1999	2000	2001
Cultivated area [ha]	153460	113860	107340	104050	107610	127 361

sent by: Alexander Goncharov, Deputy Chief Of Department Of Foreign States Statistics And International Cooperation Goskomstat Of Russia, Moscow, Russia

<sup>1/</sup>for 1ha harvested area; <sup>2/</sup>data for long fibred flax; <sup>3/</sup>unifilar linen production, <sup>4/</sup>data for I-X/2001

## UKRAINE

	1998	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	31200	21 900	1930	28200	28200		117000

sent by Prof. Dr. I. Karpets, Agriculture Institute of Ukrainian Academy of Agrarian Sciences, Chabany, Ukraine

<sup>/</sup> in mln m<sup>2</sup>



## STATISTICAL DATA ON INDUSTRIAL HEMP

## HEMP HARVESTED AREA IN EUROPEAN UNION COUNTRIES AND IN POLAND

COUNTRY OF EU	Fibre Hemp Area Harvested [ha]					
	1996*	1997*	1998*	1999*	2000/2001**	2002*
Austria	661	938	974	289	287	277
Belgium			0	1	0	0
Denmark			26	23	7	0
Finland	2	53	1218	93	59	0
France	7588	10980	9682	9515	7700	7729
Germany	1362	2766	3553	3993	2967	2035
Italy	0	0	255	197	151	300
Ireland	0	23	28	22	6	0
Luxembourg	5	13	13	0	0	0
Netherlands	893	1322	1055	872	806	2100
Portugal			770	185	4	0
Spain	1450	4828	19860	13473	6103	691
Sweden					0	0
UK	1697	2293	2556	1517	2245	1413
Switzerland	150	200	250	250	250*	
<b>Total area in EU</b>	<b>*13658</b>	<b>*23216</b>	<b>*39990</b>	<b>*30179</b>	<b>**20404</b>	<b>**14584</b>
Poland –data by CSO (Central Statistical Office of Poland)	200	300	78	100	111	83 In 2003– 101 ha* In 2004 –850 ha*

**Source:** \* Michael Dr. Karus, nova –Institut für politische und ökologische Innovation, Nachwachsende Rohstoffe, Thielstr. 35, 50354 Hürth Germany

\*\*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

\*Polish Flax and Hemp Chamber, 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

### **Future plans 2004**

- **3rd GLOBAL WORKSHOP (GENERAL CONSULTATION) OF THE FAO/SCORENA EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS, entitled: “BAST FIBROUS PLANTS FOR HEALTHY LIFE”, October 24-28, 2004, in Banja Luka, Bosnia and Herzegovina, Republic of Srpska**  
Organizers: **Institute of Natural Fibres (INF), Coordination Centre of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants**, ul. Wojska Polskiego 71b, 60-630 Poznań, Poland, T: +48 61/ 8455-823, F: +48 61/ 84 17 830, E-mail: [netflax@inf.poznan.pl](mailto:netflax@inf.poznan.pl)  
**and Agricultural Institute of Republic of Srpska, Banja Luka**, K. Miloša 17, Banja Luka, T: +387 51 309 678, mob. +387 65 624 458, F: ++387 51 312-792, E-mail: [polj.institut.bl@blic.net](mailto:polj.institut.bl@blic.net)

### **2005**

- 11<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005, June 5-7, 2005, Institute of Natural Fibres (INF), Poznań, Poland
- 2005 SCORENA International Conference “Textiles for sustainable development”, to be hosted and co-organized by CSIR, Centre for Fibres, Textiles & Clothing Manufacturing & Materials Technology, Port Elizabeth in South Africa, probably in October 2005.

### **REMINDER**

Subscription orders and contributions for the next EUROFLAX Newsletter can be sent directly to the Editor by letter, fax or E-mail.

#### **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 Poznań.

#### **Prof. Dr. Ryszard Kozłowski (Newsletter Editor)**

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

Coordination Centre of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants – Institute of Natural Fibres, ul. Wojska Polskiego 71 b, 60-630 Poznań, POLAND

Tel: (48) 61 8455 823, Fax: (48) 61 8417 830, E-mail: [netflax@inf.poznan.pl](mailto:netflax@inf.poznan.pl), <http://www.inf.poznan.pl>

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>

Prepared by: Mrs. Maria Mackiewicz-Talarczyk, MSc, Eng (Agr)

Desktop Publishing, Printing and Cover Design: INF Scientific Information Department.

## CONTENTS

<b>STRUCTURE OF THE NETWORK.....</b>	<b>4</b>
<b>WORKING GROUP NEWS.....</b>	<b>6</b>
<b>FLAX, HEMP AND ALLIED FIBRES IN THE WORLD .....</b>	<b>6</b>
FLAX AND LINEN INDUSTRY IN CHINA. PRESENT SITUATION AND PERSPECTIVES.....	6
<b>ACTIVITIES OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS .....</b>	<b>9</b>
THE LETTER OF THE NETWORK COORDINATOR TO MR. PHILIPPE BUSQUIN, MEMBER OF THE EUROPEAN COMMISSION .....	9
OPEN COMPETITION FOR THE BEST PAPER OR POSTER.....	10
TRANSBORDER POLISH —GERMAN CO-OPERATION AT UTILIZATION OF AGRICULTURAL FIBROUS PLANTS. ....	11
NEWS FROM THE INSTITUTE OF NATURAL FIBRES, POZNAN, POLAND.....	12
NEXT CONFERENCES PROPOSALS .....	13
<i>Third Global Workshop (General Consultation) of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants.....</i>	<i>14</i>
<i>11<sup>th</sup> International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005 .....</i>	<i>19</i>
<b>POSSIBILITIES OF COOPERATION WITH OTHER NETWORKS AND ASSOCIATIONS ON INDUSTRIAL CROPS.....</b>	<b>20</b>
<b>SOURCES OF INFORMATION.....</b>	<b>21</b>
<b>SPECIAL STUDIES, NEWS, FORUM OF THE DISCUSSION .....</b>	<b>22</b>
TECHNICAL TEXTILES WITH REFERENCE TO JUTE .....	22
<b>EDITORIAL.....</b>	<b>25</b>
EXPERTS, WHO HAVE DEVOTED THEIR LIVES TO BAST FIBROUS PLANTS .....	25
<b>LETTERS TO THE EDITOR.....</b>	<b>27</b>
<b>NEWS ABOUT THE EUROPEAN PROJECTS WITH INVOLVEMENT OF NETWORK MEMBERS .....</b>	<b>27</b>
COST ACTION 847 “TEXTILE QUALITY AND BIOTECHNOLOGY” .....	27
<b>NEWS REGARDING PUBLICATIONS ON NATURAL FIBRES.....</b>	<b>28</b>
JOURNAL OF NATURAL FIBERS .....	29
EUROFLAX NEWSLETTER .....	29
PROCEEDINGS .....	29
<b>INFORMATION ABOUT INTERNATIONAL CONFERENCES ON NATURAL, LIGNOCELLULOSIC FIBRES AND TEXTILES.....</b>	<b>31</b>
<b>REPORTS ON THE EVENTS .....</b>	<b>34</b>
INFORMATION ABOUT THE 10 <sup>TH</sup> INTERNATIONAL CONFERENCE FOR RENEWABLE RESOURCES AND PLANT BIOTECHNOLOGY NAROSSA-2004 IN MAGDEBURG – GERMANY .....	34
REPORT ON THE INTERNATIONAL CONFERENCE: “INTENSIFICATION OF THE MECHANIZATION OF HARVESTING AND PROCESSING TECHNOLOGIES OF FLAX”, JULY 13-17, 2004, TVER, RUSSIA. ....	35
<b>STATISTICAL DATA ON FLAX.....</b>	<b>36</b>
<i>FLAX CULTIVATED AREA IN THE WORLD [ha] .....</i>	<i>36</i>
<i>FIBROUS FLAX.....</i>	<i>36</i>
<i>STATISTICAL DATA ON INDUSTRIAL HEMP.....</i>	<i>41</i>
<b>FUTURE PLANS.....</b>	<b>42</b>
<b>CONTENTS .....</b>	<b>43</b>