

Dear Readers,

Few months ago passed last our General Consultation (Global Workshop) of our Network, in Bosnia and Herzegovina, Republic of Srpska, beautiful city Banja Luka (see the report).

From this time I represented the Network in the Joint Meeting of the Intergovernmental Group (IGG) on Hard Fibres, Intergovernmental Group on Jute, Kenaf and Allied Fibres; IGG on Hard Fibres Sub-Group of Sisal and Henequen Producing Countries and Consultation on Natural Fibres and the Consultation on Natural Fibres at the Food and Agricultural Organization of the United Nations, Rome in December 2004. Additionally I met FAO staff in charge of ESCORENA at the FAO Regional Office for Europe. I presented our Network activities and my attitude regarding future possibilities of our organization for sustainable development. Nobody doubts that European Cooperative Research Network on Flax and other Bast Plants is going forward towards sustainable development and better exploiting the natural resources. I discussed with FAO authorities the new situation and any possibilities to provide financial support to this Network. We concluded that the only chance and opportunity to find financial support for a 16 years old Network, which includes more than 350 experts from 52 countries, would be to create a large platform of joint research under auspices of the Seventh Framework Programme (FP-7) for EU research.

As you know, our next conference on textiles for sustainable development will take part in Port Elizabeth, South Africa on October 23-27, 2005 (see call for papers).

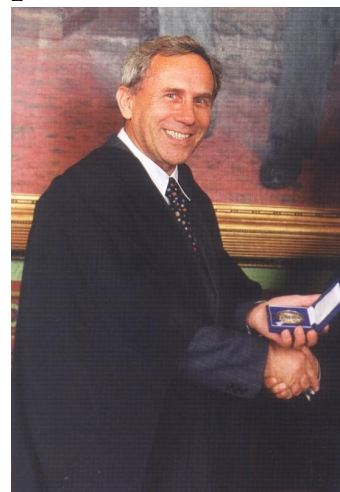
We invite you cordially to attend this event! The government of South Africa and its R&D authorities decided to arrange this conference with our Network, because they expect a great beneficial influence of this event on African rural areas development, which has got so many diversified and rich fibrous raw materials and renewable resources. From the other side, high developed European countries knowledge and technology could be applied there and contribute to getting up not only African textile and green technology.

Looking forward to your contributions

Yours sincerely,

The Editor, Prof. Dr. Ryszard Kozłowski

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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

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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), and Ing. Agr. Daniel **Sorlino**, Cátedra de Cultivos Industriales, Facultad de Agronomía, Universidad de Buenos Aires, Av. San Martín 4453 (1417) Cap., Ph: 4524-8074/8040, fax: 4514-8739, e-mail: 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, Ph: (403) 507-7970, fax: (403) 507-7977, e-mail: paulk@admin.oldscollege.ab.ca, www.occ.ab.ca,

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NETWORK WORKING GROUPS (WG):

Please note!

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

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

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

WG/5. Non-Textile Applications

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WORKING GROUP NEWS

The reports on the activities of Working Groups

Report on activities of WG/1. Breeding and Genetic Resources

CHAIRMAN: Martin PAVELEK

Survey of WG 1 members activities 1993 – 2004 (please, note, the IFDB is constantly up-dated)

Review of WG 1 activities

Working Group 1 – Breeding and Genetic Resources has been working since 1989, at the beginning together with group for physiology and crop protection, than like individual group interested in breeding and flax genetic resources. The activities of WG1 members cover work with flax genetic resources resulting to the breeding of new high yielding flax and linseed varieties in Europe. In order to carry out the breeding work more effective this group started to establish an international register of flax/linseed collections. The members prepared the grounds for International Flax Data Base (IFDB) establishment, which has been managed in AGRITEC Ltd. Šumperk, Czech Republic since autumn 1993. During period 1993–1999 1,385 entries were accepted into the structure of IFDB in order to standardize the passport data, to unify the descriptors for special traits and to evaluate individual characters. Due to lack of resources provided to the IFDB development by the ESCORENA FAO Flax and other Bast Plants Networks, only little progress was made and the development stagnated at the end 1999. The 1,385 accessions included during 1993 – 1999 IFDB only represented approximately 4 percent of the total European gene pool of flax of approximately 27– 28,000 accessions.

The situation improved at the end of 1990ies with the cooperation between FAO ESCORENA and IPGRI Networks in the framework of the Industrial Crops and Potato Network activities planned and carried out within Phase VI of ECP/GR (1999-2003). During the first meeting held in Bury St. Edmunds, United Kingdom in September 1999, also attended by the chairman of WG1 FAO ESCORENA Network, it was considered important to intensify collaboration between ECP/GR and the ESCORENA networks on flax and fibre crops, to exchange publications, to involve the ESCORENA database manager in ECP/GR documentation activities and to jointly organize meetings and establish a database.

Based on above-mentioned, the first ad hoc meeting of the representatives of European collections on flax genetic resources on behalf of IPGRI was carried out in Prague in December 2001. Lorenzo Maggioni, ECP/GR coordinator, recommended using a list of FAO/IPGRI Multicrop passport descriptors (MCPDs) agreed for data exchange by the European database managers in 1996, also for IFDB. The revision of the MCPDs is now almost complete and the new version would be used as a basis for the upcoming European Internet Search Catalogue (EURISCO).

It led to the further IFDB development resulting in new passport and partly also describing data submitting. IFDB now contains 8,385 records consisting of 6,549 newly adopted records and the previous 1,385 records.

The Working Group 1 organized nine meetings since its establishment:

The First Meeting in Poznan, Poland – 1993

The main activity of the meeting was organizing and establishing of International Flax Data base (IFDB). A IFDB proposal was prepared before the meeting and sent to the members of the working group and to the flax genetic resources centres. Comments received from the USA, Germany, and Russia were incorporated in the IFDB proposal. The design of IFDB was prepared in FOXPRO2 and DbaseIII+. Meeting participants discussed 22 suggested passport descriptors and prepared a work plan for the next year. Five papers of breeders were presented during the meeting. The report of the meeting was distributed to participants and others interested in the result. Number of participants: 16

The Second Meeting in Brno, Czech Republic – 1994

The main aim was the evaluation of the progress of the IFDB and the special descriptors unification including 14 describing descriptors for morphological traits. The IFDB included 1,150 accessions of flax genetic resources from 13 contributing gene banks from Europe and USA. The proposal of descriptors for morphological traits was prepared by the co-ordination centre AGRITEC Ltd. Šumperk and discussed during the meeting. The procedure for admission of varieties to IFDB was accepted. In addition, ten scientific papers were presented at the workshop and the work plan for 1995 was prepared. The report of the meeting was distributed to participants and others interested in the result. Number of participants: 36

The Third Meeting in Saint Valery en Caux, France – 1995

IFDB was described by 22 passport descriptors and 14 descriptors suggested and accepted in Brno 1994. The preparation of the more detailed evaluation of some important flax characteristics and the selection of suitable standard varieties were the first objective of this meeting. Only three genetic centres (RICIC Fundulea - Romania, FI Torzhok - Russia, Van de Bilt Zaden - The Netherlands had sent the description of their part of IFDB by special descriptors and only two gene banks (RICIC Fundulea - Romania and FI Torzhok – Russia) had sent their own proposal of standard varieties. AGRITEC appealed to start discussion about standard varieties. The progress in IFDB was presented, which included 1,385 records of flax genetic resources from 13 contributing gene banks...The second objective of the meeting was to discuss the breeding flax for fibre and oil quality. 28 papers were presented by breeders on flax breeding for fibre and oil quality, including the use of biotechnology and molecular genetics. Number of participants: 76

The Fourth Meeting in Rouen, France – 1996

This meeting was held in the framework of the 4th Regional Workshop on Flax named „Producing for the market“ held in Rouen, September 25 – 28, 1996. It was not special meeting of WG1 members but at the end of this Workshop 20 members of Breeding and Genetic Resources Group met together and discussed further activities of this group.

The Fifth Meeting in St. Petersburg, Russia – 1998

This workshop was organized by N.I. Vavilov Research Institute of Plant Industry (VIR) St. Petersburg, Russia and Institute of Natural Fibres Poznan, Poland as the meeting of the WG1 and WG6 of the FAO European Research Network on Flax and other Bast Plants. 20 lectures as well as 21 relevant posters were presented within session I – Plant Genetic Resources, Breeding and Cultivation and 3 lectures as well as 5 relevant posters within session II – Seed Management and Diseases protection. The newest knowledge in flax and linseed genetic resources, breeding, new varieties development was presented.

The Sixth Meeting in Borovets, Bulgaria – 2001

This workshop was organized by Coordination Centre of the FAO European Cooperative Research Network on Flax and other Bast Plants Poznan, Poland, National Centre for Agrarian Sciences Sofia, Bulgaria, Agro Bio Institute Kostinbrod, Bulgaria, Institute of Plant Genetic Resources Sadovo, Bulgaria as the Second Global Flax Workshop. 16 lectures as well as 13 relevant posters were presented within the session I – Genetic Resources, Biotechnology and Molecular Biology of Bast Plants, on recent progress made in breeding methods, methods of genotypes evaluation and detection based on molecular methods, DNA analysis especially.

The Seventh Meeting in Prague, Czech Republic – 2001

The meeting was organized by IPGRI Rome as an ECP/GR ad hoc meeting on flax with participation Lorenzo Maggioni, ECP/GR coordinator in order to make further progress in the International Flax Database development. Managers of flax collection from Bulgaria, Czech Republic, Germany, Hungary, the Netherlands, Poland, Romania, Russian Federation, Ukraine took part in this meeting. They presented basic information about their national collections. The system of Multicrop Passport Descriptors (MCPDs) as a base for EURISCO and the further development of the IFDB were agreed. 28 MCPDs were included by the IFDB manager into the new structure of IFDB in Access format and sent to the European gene banks. As a result of the workshop the report „Flax Genetic Resources in Europe“ was jointly published by IPGRI, the FAO/ESCORENA Flax and other Bast Crops Network and AGRITEC Ltd. Šumperk.

The Eighth Meeting in Šumperk, Czech Republic – 2002

The meeting of WG1 members was organized by AGRITEC, Research, Breeding and Services Ltd. and the Institute of Natural Fibres Poznan, Poland on the occasion of the 60th Anniversary of AGRITEC Ltd.. 18 lectures were presented focused on flax genetic resources, the methods of their evaluation and description, the International Flax Database and breeding work..

The Ninth Meeting in Cairo, Egypt – 2003

The meeting was held in the framework of the International conference of the FAO/ESCORENA European Cooperative Research Network on Flax and other Bast Plants organized by Prof. Dr. Dardiri M. El-Hariri, representative of the FAO Network for Near/Middle East. Ten lectures on genetic resources, breeding and biotechnological methods were presented within the WG1 and WG6.

2. Future Plans

It is highly recommended to make the work on flax and linseed genetic resources more effective, to be much more active in the field of classification, description, evaluation in order to make the IFDB more accessible and useful to the large range of users. This requires an active participation of all WG1 members in joint development of projects under 6th Framework Programme for European Research to get financial support from the European Community for these activities on flax and linseed genetic resources.

The International Flax Database currently includes 7,934 records of about 27–28,000 records of the total European genepool. In order to include more of the important genetic resources all WG1 members and database managers are requested to provide more data to the IFDB. Data of the following collections needs to be included:

Bulgaria, IPGR Gene bank, Sadovo: 532 accessions

Bulgaria, ABI Kostinbrod: 283 accessions (10 already included in the former IFDB)

Czech Republic, AGRITEC Ltd. Šumperk: 2,052 accessions (100 already included in the previous IFDB)

France, INRA Versailles: 1,696 accessions (62 already included in the previous IFDB)

Germany, IPK Gatersleben + BAZ Braunschweig: 2,304 accessions (1,680 already included + 178 in the previous IFDB)

Hungary, Tápíószéle: 409 accessions (all entries included)

Italy, ISCI Bologna: 401 accessions

Latvia: 261 accessions (15 already included)

Lithuania: 1,060 accessions

The Netherlands: 974 accessions (747 already included + 56 in the previous IFDB)

Nordic countries, NGB Alnarp, Sweden – 359 accessions

Poland, INF Poznan: 864 accessions (200 already included + 59 in the previous IFDB)

Romania, Fundulea + Livada + Suceava: 3,776 accessions (499 already included + 17 in the previous IFDB)

Russian Federation, VIR St. Petersburg + FI Torzhok: 11,651 accessions (1,729 already included + 482 in the previous IFDB)

Total: 20,379 accessions – are supposed to be further collected

After the expansion of the database, it is proposed to use molecular methods for genotype identification to reduce the flax collections to the minimum records with maximal genetic variability.(core collections).

3. Next Meeting

Working Group on Flax and Hemp Meeting, CGN Wageningen, June 2006

4. Edited publications of WG 1:

Maggioni, L., Pavelek, M., van Soest, L., J., M. a Lipman, E. (compilers) 2002: Flax Genetic Resources in Europe. Ad hoc meeting, 7-8 December 2001, Prague, Czech Republic. International Plant Genetic Resources Institute, Rome, Italy.

Pavelek M: International Flax Data Base, catalogue – first version, AGRITEC, research, breeding and services, Ltd., Šumperk, 1994, 22 pp.

Pavelek M: International Flax Data Base, catalogue – second version, AGRITEC, research, breeding and services, Ltd., Šumperk, 1995, 29 pp.

Pavelek, M.: Status of the Czech National Flax Collection and Management of the International Flax Database within the Framework of the FAO/SCORENA

Flax and other Bast Plants Network. 22 – 28. In: Maggioni, L., Pavelek, M., van Soest, L., J., M. a Lipman, E. (compilers) 2002: Flax Genetic Resources in Europe. Ad hoc meeting, 7-8 December 2001, Prague, Czech Republic. International Plant Genetic Resources Institute, Rome, Italy.

Rosenberg L, Pavelek M (1993) Report of Flax Genetic Resources Workshop, first meeting, Poznan, 9-10 November, 1993, FAO REUR, Rome and State Institute for Testing in Agriculture Brno, pp. 3 – 7.

Rosenberg L., Pavelek M (1994) Report of Flax Genetic Resources Workshop, second meeting, Brno, 8 – 10 November 1994, FAO REUR Rome, State Institute for Testing in Agriculture Brno and Agritec Ltd. Šumperk, pp. 5 – 8.

October 6, 2004

Martin Pavelek

Chairman of WG1

Report on activities of WG/2. Extraction and Processing

Chairman – **Eng. Martin Tubach**

Background

The development of models, which are economically, ecologically and socially sustainable, represents the central theme for the route into the 21st Century. Non-renewable resources are becoming more and more scarce and thus more expensive. Businesses, which are today developing and implementing innovative solutions within the area of renewable resources, are achieving a strong competitive position in the worldwide market.

Farming in general

European agriculture is characterised by stagnation of value creation in many countries, decreasing incomes and strong dependency of subsidies. The financial promotion of the European agro sector averages 122 Billion € in 2003, contributing 84% to the gross added value in this area. This means, that farmers are almost totally financed by taxpayers, quasi as employees of the state.

Fibre business

Currently, the production of natural fibres is strongly determined by the EU subsidy regulations, which drive the motivation of farmers and processors. The established and successful long fibre segment is mainly dominated by French, Belgian and Dutch farmers. The traditional short fibre production is well established but in a smaller scale. Since the late eighties a lot of efforts have been made to extend the fibre production for new applications in the short fibre area by numerous product and decortication technology developments. Short fibres from Flax and Hemp can be considered now as well established in paper industry as well as for fibre composites in car industry.

Today, other entrepreneurs consider any further attempt more and more as an incalculable economical risk. Due to the low profitability, a successful competition against (tropical) fibre imports from low cost countries is very difficult. A difficult bottleneck is the capacity of decortication plants in Europe. The process starts to be economical if the throughput reaches 2 Tons per hour (actual: ~1,0-1,4 t/h). Furthermore, the strategic factors for the mechanical fibre refining are yet not very promising:

- High investment per sales
- Low product differentiation
- Import pressure
- Low growth of market
- Low product diversity
- Low value added
- Limited assortment of fibres

New fields of high-added value applications cannot be expected on a short term. Due to the low fibre functionality, the realisation of innovative textile and non-textile goods from natural fibres will remain limited to low-value-applications.

Future

Bearing this in mind, the real potential of natural fibres like hemp and flax is not yet exploited. On the one hand natural fibres can offer multiple possibilities by improved agricultural efficiency, adequate industrial use and meeting of consumer demands. On the other hand farmers and (textile) manufacturers need a higher degree of value creation. Natural fibres offer a chance to ensure both by

- continuous innovation and product diversity in the fibre business,
- high product quality of upgraded natural fibres in textile and non-textile industry,
- applying modern competition strategies for an increasing demand,
- optimal managing the complex value chain of bio refineries (production, transformation, use).

For any extension towards high functional applications such as biobased textiles and high performance composites, industry needs fine and clean fibres now. This implies tailor-made fibre upgrading by chemical and/or enzymatic treatment and purification. Appropriate technologies are available in lab and pilot scales but unfortunately not realized in industrial scales yet.

Acknowledgement

The permanent stimulation of interdisciplinary cooperation between farmers, technicians and industry is essential and necessary in the process of globalisation. The FAO, the SCORENA Cooperative Research Network on Flax and other Bast Plants and numerous researchers can take existing and future cooperative product and technology development as their reward. Note: past and future activities of the working group will be presented in the next issue.

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Report on the activities of WG/4. Quality

The activities of the Working Group on Quality have been conducted within the program: COST Action 847 Textile Quality and Biotechnology.

WG 1 COST ACTION meeting held at Belfast (29-30 Jan 2004) and WG1/2 meeting Budapest (23-24 Sept 04).

During the past two years application from work areas relating to WG 1 were assessed from one candidate (Z Jankauskiene) visiting QUB, Belfast. The application was approved and results of the STSM visit were presented in the Budapest meeting. In addition, other STSM applications from other WG members were also submitted and majority of the bids was successful.

Members of the WG 1 are collaborating as expected, but perhaps this could have been organized better. Various researchers are involved in the analysis of test materials to take advantage of specialist analytical facilities available in various host institutes. This will continue, as this is entirely dependent on discussions between various researchers within the group.

Belfast meeting: Delegates from Finland, Belfast, Bulgaria, Portugal and other countries attended the WG meeting. All delegates presented a summary of activities going on in their laboratories.

QUB: The activities at Queen's are focused on the deliverables from four projects funded by EU, INVEST NI, and EPSRC. The European project "EUROFLAX" was focused on assessing quality of fibre from scutching to yarn and fabric. The following tasks, enzyme-processing steps, environment friendly bleaching recipes to replace chlorite and application of

spectroscopy to evaluate fibre quality were carried out. A number of commercial processes were developed and treated yarn samples were woven to prove the efficacy of the treatments.

Two National (INVEST NI) funded projects (Q-Yarn and Q-Fibre) were focused on developing NIR calibrations for assessing fibre fineness during mechanical processing and for predicting warp yarn breaks. Both projects have been successfully completed. The EPSRC funded National project (NOVCOMPS) to develop enzyme formulations for improving poor quality yarn is still in progress and will be completed in June 2005.

VTT/Tampere University of Technology: In Finland, linseed (3000 hectares) and fibre (300-400 hectares) flax crops are still grown for extraction of oil and fibre from dew-retted flax. The fibres are dry-spun and woven to produce a range of high quality products for specialist markets by a number of small SMEs. In addition, non-woven materials are also manufactured for insulation of building, non-woven felts for car seats and preliminary report suggested that the performance was as good if not better than current products. The VTT delegate also reported on various activities within their organization on the use of specialist instrument to assess fibre, yarn and fabric quality after treatment with chemical and enzymes. In addition, they reported on the development of an industrial continuous retting process in Sweden, for technical and composite applications. Tampere University has been awarded an EU project on pulp production from regenerated cellulose fibres with the aim of producing the material by enzymatic (endoglucanase) processing to replace the sulphite process. They hope to develop a range of products including films, coatings, sausage casing, textile fibres, medical products, and microcrystalline additives for medical pills.

Portugal: Report from Portuguese researchers and industry members included oil flax (2-3,000 hectares) and hemp production in the north of the country and some of the materials are used by a local wet-spinner for blending with cotton.

Bulgaria: They reported on activities relating to enzyme treatment of fibres to examine macro-molecular impact on processing, including dye uptake.

Budapest meeting: The WG chairmen of 1 and 2 decided to have a joint meeting as all delegates were planning to discuss common issues of quality and processing. It was announced that we would require inputs from all delegates a brief summary of current research activities and publications of each group.

ITF, France: What was expressed was surprising, as the French delegate listed all the eternal problems of quality evaluation of fibre: sampling from scutching mills, simulation of industry scutching with small lab scale equipment (mini system) to assess fineness and strength. Airflow and laserscan techniques are recommended for quality evaluation. He also reported that colour of materials correlated with retting degree, but the industry did not adopt their protocol.

UR, France: The research efforts of University of Rouen were focused on the biosynthesis and the genetic variability of flax cultivars. The projects are funded by national organizations.

Help-Dehondt Technologies, France: Their main interest is in the development of harvesting machinery and application of enzymatic treatments for long fibre production.

Plant Research International, The Netherlands: The Dutch group reported on the results of the EU funded, Harmonia project to link up molecular data on the breeding of Hemp.

INF, Poland: Their reports focus on basic problems of mechanical processing of non-homogeneous materials, resulting quality variation and harvesting of the crop with suitable equipment. They also explained work on the development of quality standards based on Russian evaluation protocols. Majority of the work programmes is funded by national organizations.

Institute of Agritec, Czech Republic: The focus of their institute is on crop production, plant protection of fibre flax. The Government funds the projects.

Innotex, Czech Republic: Enzyme application to improve fibre quality is the main objective of the SME company with additional work emphasis on blending with cotton. National organizations and EU fund projects.

Agritec Research, Czech Research: The focus of the company is on breeding of flax and the company has a number of collaborations with local institutes.

Textile Department, University of Budapest: Their research activities are in the treatment of cotton/linen fabric with enzyme formulations (biscouring) and also ammonia treatment to improve fabric performance. Some additional work on wool is also in progress.

AgroBioInstitute, Bulgaria: Fibre crops, such as flax and hemp are of interest in Bulgaria. Main focus is the evaluation of straw and fibre quality. Even now water-retting is widely used in Bulgaria. Additional areas of work are enzyme treatment for improving fibre quality, retting effluent treatment, and fibre production from other crops such as, Nettles.

Lithuanian Institute of Agriculture: Breeding of flax and evaluation of new varieties in Europe are the main focus of the organization. In addition the use of pre-harvest herbicides for improving dew retting in the field has been tested extensively. All projects are funded by national projects.

National Institute for Engineering, Technology and Innovation, Lisbon, Portugal: The activities of the organization included screening of novel strains for activities, scaling up of effluent bio-processing systems and enzyme applications for bio-processing. The delegate also emphasized the need for co-ordination to impress EC officials responsible for the Policy Framework required for supporting textile industry in Portugal and also in Europe.

No details on publications from any of the delegates were received. However, I plan to pursue this in a few months so that a final list is available in time for the final meeting at Grand Canary.

Dissemination: Dissemination of the results from the various national and EU programmes have taken place during the joint annual COST ACTION 847 meeting and the 3rd International Symposium on Biotechnology in Textiles at Graz, Austria,

April 14-17 2004, AATCC meeting, September 14-17, Greenville, North Carolina, USA and other textile and microbiology related meetings.

Future programme: It is expected that activities of the working groups will be presented during the Flax Net Work meeting at Banja Luka Oct 04, Cost Action meetings to be held at Sofia in Oct 04, Minho in Nov 04 and the final gathering in Grand Canary, 2005.



FLAX, HEMP AND ALLIED FIBRES IN THE WORLD

Current Situation in Flax Industry in Russia and Actual Agricultural Research Tasks in this Field

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ABSTRACT

Flax is one of the important industrial crops for the multipurpose using in Russia in many centuries. Supplying of flax industry with cultivars, fertilizers, herbicides, machines and technologies have been done by domestic industry and Russian research institutes. Biological potential of cultivars, efficient chemicals, different technologies and high capacity flax harvesting machines are the base for developing of the industry. The corner-stone problem of the nowadays-Russian flax industry is the stable production and high quality raw material. Agricultural tasks are diverse: for breeding - high yielded and well-adapted cultivars; for agronomy – ecological safety chemicals and soil preparation technologies; for techniques and technologies – high capacity and precise carrying out of the field works. Research institutes in frame of federal programs work out biological, agronomic and technological projects resulted in improvement of flax fields.

Key Words: flax industry, breeding, agronomy, technologies, fiber quality, research projects

INTRODUCTION

The acreage of flax in the world consists of about 400,000 hectares producing about 400,000 tones of total fibre. Flax is the old crop for the traditional flax growing countries and new crop for the countries where flax industry is more profitable on globalization reason. The Russian fibre flax production has a history of more than 10 centuries. Today, Russia has chance to use the old traditions and experience in flax industry together with the economic expedient of the developing of domestic textile processing industry. Russia has currently about 125,000 ha of flax field production. The total fibre yield is about 0.6 t/ha. The main end use of flax fibres in Russia is for exclusive, household and technical textile. The flax yarn and cloth (linen) produced from domestic raw material accounts for 70-80% of the entire Russian production. Improving stability in crop and quality is one of priority tasks of agricultural research institutes caring out flax projects.

FLAX GROWING AND INDUSTRY SUPPLYING WITH BREEDING, AGRONOMY AND TECHNOLOGIES NEEDS

Flax is a traditional industrial crop in the Northwest regions of Russia, which has being cultivated for the production of high quality long fibre. Soils and climatic conditions of the main flax growing area of Russia – the central part on the Non-chernozemic zone – are suitable for this crop. However, more than half of all flax fields are characterized as a light acidic soil. The average sum of effective temperatures ($t > 10^{\circ}\text{C}$) during a vegetation period of flax is above 1500. Duration of vegetation period depends on genetic characteristics of a variety and is in a range of 85-110 days (early-late varieties). On the reason of short summer season the middle varieties are more suitable for Russian flax production zones.

Today, more than 35 of recommended flax cultivars, which included in the State List for the Growing on the Territory of the Russian Federation, are cultivated on the area about 125 000 ha. Majority of them is the result of realization of national research program on flax breeding, coordinated by the Flax Research Institute (VNIIL). High potential yield of fiber and diseases resistance are the strong characters of these varieties. On the reason of the increasing of the unfavorable climatic fluctuations breeders are working on the rising of adaptability and high potential quality of fiber (tenacity, strength) in new varieties. Quality of seed material is supported by the state like subsidy for elite reproduction.

Special fertilizers with microelements (Zn, B, Mo) prevented some deficit of these elements in soils are developed and producing by Russian institutes. New herbicides are tested for flax and recommended for farms by VNIIL and other independent research institutes. Joint using growth stimulators and herbicides resulted in high yield and safety agriculture.

Unfavorable climatic conditions during harvesting time (storms, rainfalls, early frosts) are the main cause of the traditional using of combine harvesting technology (simultaneous pulling and deseeding) in all Russian flax regions. Separate technology of harvesting (deseeding after retting of pulled straw) has been use on 20% of flax growing area. Techniques for these technologies have been worked out at the Flax Research & Engineering Institute (VNIPTIML) in cooperation with machines production companies "BezhtskSelMash" Ltd. and "TverSelMash" Ltd., located in Tver region. This region is the main flax growing zone of Russia with 25000 ha of flax fields.

Research developments in the field of flax cultivation and primary processing are focused on new trends in the crop growing (sustainable agriculture) and the end using (non-textile application of fibers, medical goods production, automotive industry etc.). However, more profitable flax using is still the textile industry – high quality fiber for everyday and luxury clothing. Russian textile enterprises need in app. 80 thousand tons of fiber, yearly. That is a big volume, which determines the prospects and a size of the raw material market in Russia. Agricultural research institutes, which are the state organizations, carry out programs on the supply of the flax production complex according federal, local and private companies projects. Federal program for the flax production complex development covers term till 2010.

RESEARCHES FOR GENETICAL-BREEDING IMPROVING

Breeding works on flax improvement are carried out at many research centers in the different regions of Russia: the Flax Research Institute - VNIIL (Torzhok, Tver region), the Pskov Agricultural Research Institute, the Viatka Agricultural Academy, the Falenskaya Breeding Station, the Smolensk Breeding Station and the Tomsk Breeding Station.

Traditionally the main task of the breeding works is fibre yield. Modern Russian varieties – A-29, A-93, Alexim, Krom, Lenok, T-16, Tverskoj, and Rosinka have a high yield potential (up to 2000 – 2500 kg of fiber per hectare). Fibre content in stem reaches of more than 35%. Some breeding lines have more than 40% of fibre content in stem. Breeding success in this field depends on the high coefficient of heredity of two features - fibre content ($h=0.8$) and fibre yield (0.7). General methods in flax breeding used in Russian research institutes are the single seed descent (SSD), pedigree and recurrent selection. Selection of outstanding plants from heterogenic populations in the provocative conditions (pathogens, stress conditions of growing) is effective at the first and late stages of breeding. Method of selection on the level of matured pollen is one of new methods for searching of desired forms.

The main source of the basic material for flax breeding is germplasm collections, breeder-working collection which are consist of lines, hybrids, mutation lines. Russian research institutes during more than 60 years of collection work gathered one of the largest genetic pool of the species. Genetic improvement of little part of flax varieties has been done with the induced variability methods – recombinogenesis, mutagenesis, genetic engineering, cell and tissue cultures. These methods are the effective tool in the case of searching for genotypes with unusual correlation of features and with new features or for introduction of wild flax species in culture.

Biotechnological investigations in flax are carrying out for searching for desired genetic variability in breeding varieties and lines (soma- and gametoclonal variability, embryo-culture, double haploids and genetic transformation). All these induced variability methods as well as new selection methods are focused on the reducing of time and costs for new varieties creation.

New trends in flax breeding are depended on market demands in fiber and oil products as well as principles of agricultural managing. Sustainable agriculture needs in new reaction of varieties on conditions of growing: soil preparation, fertilizers, and herbicide less technologies. Industry needs in ecological pure fiber for textile and environmental safety raw material for automotive industry as a replacement of glass fiber in composites. Enlarging of flax applications leads to the increasing of interest in flax cultivations and so new features are becoming of the favorite in the breeding work. Looking for new trends improving the homogeneity of fiber formation along a flax stem could be named as an example.

TECHNOLOGICAL AND MANAGING ASPECTS OF FLAX PRODUCTION

Harvesting is the more critical and expense point of flax. The decreasing of the harvest risks and cost, as well primary processing are the determining points of success of flax production.

Old general and specialized flax machines, insufficient treatment of soil with fertilizers and herbicides, managing mistakes lead to reduction of yield and quality of fiber in many farms. Only low costs of manpower should return production expenses in those farms, that is a wrong way for this crop development.

VNIPTIML, as a coordinator of research institutes activity offer new and prospects ways of optimization of harvesting, improving processing and purification of fiber. However high costs of that modernization need large invests. It can be realistic only in the system of vertical integration of flax production from farmer to the end producer.

Some Russian multioperational companies began to invest for flax business on the principle of a consortium. A vertical integrated system from the field (including own seed multiplication) till the fiber or yarn is realized in these new organizations for flax growing and processing. This structural approach is resulted in the increasing of flax yield and quality, as well as economic efficiency of all production stages. These enterprises are attractive for international investment and integration with west European companies.

CONCLUSION

Integration in the Global flax economy requests from Russia to reorganize the flax complex. Managing and technological renew of farms and flax mills are the critical points of these reorganization. It will take lot of resources and will be estimated by the quality as a product, as well as production process.

Another important point in the development of flax in Russia is taking part in the creation of the international system of quality assessment. Cooperation with colleagues over world as well with colleagues from other countries worked in this field is the very important for Russian flax industrial complex. Now in the country the work for the organization of flax quality monitoring is started. In the prospect the units for flax quality standardization, based on international principals of fiber measurement and equipped with modern techniques, will be organized in the country.

Ecofibre Industries Limited – pursuing the Hemp Fibre Industry in Australia

Tanya Jobling, Agriculture Director with Ecofibre Industries since 2000.

Many of you involved with Hemp and the Hemp fibre industry may have recently met Mr Phil Warner, Managing Director of Ecofibre Industries Limited, at the European Industrial Hemp Association conference in November. It wasn't just the cold European weather that had Phil hurrying back to sunny Queensland, we needed him here!

The conference is obviously timed for the European season, and in Australia, on the other side of the world, November is our spring, which is our busiest time of the year. At this time we are in the midst of planting for fibre crop, consulting to other companies for planting hemp, planning for seed crops, manufacturing hemp mulch products for the garden sector and retailing animal bedding for the horse racing industry. Not to mention pursuing our plant research and industrial hemp breeding program, our variety trialling program and working on our new processing machinery prior to harvest.

Nonetheless, I promised an update on Ecofibre Industries' activities for the current Euroflax newsletter, so I'll take a moment to give you a picture of the Australian industry and our activities.

Australia's bast fibre industry proponents have been active for over ten years, including Ecofibre Industries Limited (previously known as Australia Hemp Resource and Manufacture). In many ways we have made enormous progress, and yet there's still a few big leaps to make. The availability of a basic industrial scale processing facility eludes us. Hence, our access to bast fibre markets, both in Australia and for export are on hold.

In the meantime however, we have initiated some of the most advanced legislation for growing industrial hemp anywhere in the world. Australia is comprised of seven states and two territories, each jurisdiction being independently responsible for the legislation enabling industrial hemp growing. Ecofibre Industries is based in Queensland which lies between latitudes 11 degrees South and 29 degrees South: a predominantly tropical and subtropical climate, with vast areas of coastal and semi-arid cropping country, with predominantly summer rainfall, hence the focus on the development of a hemp industry that utilises these low-cost cropping systems.

Queensland now has legislation and regulatory system in place enabling the broadacre production of Industrial hemp as well as a research framework for more detailed studies. Three other Australian states have legislation and licensing enabling hemp production.

Ecofibre Industries has invested heavily in sourcing and developing varieties, mainly using Asian and European lines, suitable to growing in our subtropical summer daylengths. Many early trials demonstrated that varieties adapted to European summer daylengths flowered prematurely in Queensland, thereby limiting vegetative yield. From 2000-2002, Ecofibre Industries developed varieties that grew to 4 m in height and yielded up to 18 t/ha of dry weight stalk in plot trials.

Developing a suitable agronomy for Industrial Hemp in Australia has been challenging as the accepted European practices failed repeatedly due to such differing conditions and lack of experience. There have been many failures due to flood irrigation, inadequate fertilisation, poor germination and weed incursions. In Australia, we have established that good early germination is critical, with adequate soil preparation and fertilisation the single most important factor for success. We have had success with higher fertiliser requirements than quoted in European trials, for example, over 200 units of N. We also benefit from using lower planting densities than European trials have demonstrated as the higher stress conditions (heat, drought and nutrient stress) lead to higher competition between individuals in a plant stand. High yields have been achieved even in dry-land (no irrigation) cropping, a very low cost option for Queensland growers.

However, all of this successful development and learning remains theory and science until such time as there is a processing mill in place.

Ecofibre Industries has evaluated the milling systems and technology available globally. Now we are in the process of building a pilot mill based in part on traditional milling systems and in part using a new Australian designed bulk handling system. The new system involves a Field Processing Unit that produces semi processed stalk (60%-80% decorticated) infield with only a 0.5% loss. The machine is capable of processing 10 tons per hour. The way in which the stalk is able to be moved, its semi-processed state and mill feeding rate should mean a cost saving of up to 30% compared to traditional European methods used to achieve the same result.

Once this pilot mill is established and we have a low level of throughput to prove the system works (our trials have shown that it will), we will build a full size industrial mill capable of processing 55,000 t of stalk annually by 2008.

This level of production of bast fibre, 12,000 t, is already committed in the Australian domestic and Asian markets, with the hurd (shives) product being readily accepted by manufacturing, animal and environmental industries. Samples of product that Ecofibre Industries has produced from Australian grown crops have been used to develop markets with geo-textiles manufacturers, paper mills and plastics manufacturers. Most are waiting to accept product once economical supply is assured.

Ecofibre Industries hopes to have this project in place in 2005, for product to reach the market from our 2005-2006 crops. At this stage we are sourcing venture capital and securing investment in facilities, which will see this significant step for the Australian hemp industry a reality.

For more information on the agronomic trials and breeding programs underway with Ecofibre Industries, contact tanya@ecofibre.com.au

For more information on milling and fibre processing or fibre purchase, contact phil@ecofibre.com.au

For interest in investment in Ecofibre Industries and the Australian Hemp Industry, contact nick@ecofibre.com.au

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

Next Conferences Proposals

FA/ESCORENA

International

Conference Textiles For Sustainable Developments in South Africa

Conference Hosted And Supported

By

CSIR, South Africa, Institute Of Natural Fibres, Poland And South African Government Organizations

at

Port Elizabeth, South Africa

23-27 October, 2005

Conference website: www.textileconference2005.co.za

SCOPE OF THE CONFERENCE

The textile industry is the fourth largest sector in the world, providing direct and indirect employment to millions of people. The potential of generating employment through initiatives in this sector such as agro-economic activities of growing raw material for natural fibres and the efficient processing of them into various products encompassing the whole value chain effectively provides the opportunity for sustainable development, particularly in developing nations faced with problems of unemployment, rural destruction caused by poverty and lack of advanced skills. The present conference entitled "Textiles for Sustainable Development" is aimed at bringing together experts from the fibre, textiles, clothing, agriculture, composite and niche product areas on a common platform for discussing recent progress, dissemination of research and technical findings and to determine the scope of future research for the economic development of South Africa in particular and the whole world at large.

THEMES

The conference will focus on the following themes and cross-cutting research and technical activities:

- Agronomy, economics and market trends for the production of natural fibres.

- Natural fibres and synthetic; their properties, processing and applications.
- Properties, performance and primary processing of natural fibres.
- Textiles and clothing production processes and properties.
- Nanotechnology applications in textile industry
- Comfort - and health - related applications of textiles.
- World trade and marketing of fibres, textiles and clothing.
- Modern and innovative textile processing techniques and technologies.
- Smart textiles.
- New trends in standardization
- Economic aspects in fibre production and processing

CALL FOR PAPERS (BOTH ORAL AND POSTER PRESENTATIONS)

Due Date for Submission of Abstracts: May 30, 2005

A call for papers is being issued with effect from November 2004. Initially an abstract of about 500 words by prospective authors is required - to be delivered to e-mail: Rajesh.Anandjiwala@upe.ac.za with a copy to e-mail: netflax@inf.poznan.pl The template for the submission of the abstract is available on the conference website (www.textileconference2005.co.za). The abstract should contain information about the work, results and outcome of the proposed paper and will be peer-reviewed by the Scientific Committee of the conference.

The authors for accepted presentations, both oral and poster, will be notified by end of June 2005. The authors for oral presentations will have to submit the complete manuscript by the due date as per the Authors Guidelines available on the conference website. The guidelines for poster presentations will also be available on the conference website. The transfer of copyright and related contractual documents for the purpose of publishing the conference proceedings will be sent to the authors after receiving the full manuscript.

The cost of all events (fee) include: attendance to all technical and poster sessions, conference dinner, study tour, entertainment evening, tea/coffee breaks and lunches.

CONTACT INFORMATION: **TECHNICAL AND RELATED TO ABSTRACTS/PAPERS**

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11th International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005 **First circular information about the planned conference.**

Date: June 5-7, 2005

Venue: Institute of Natural Fibres (INF), Centre of Excellence on Natural Lignocellulosic Fibrous Raw Materials
“**CELLUBAST**”, Poznan, Poland

Topics:

1. Biotechnology and breeding for non food applications
2. Fibres and fibrous plants for textiles and composites. Renewable raw materials production and processing
3. Processing, characterisation and application of secondary plant substances (agro-fine chemicals from plants)
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, e-mail: narossa@oehmi-consulting.de
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Prof. Dr. Ryszard Kozłowski and his team of the Institute of Natural Fibres, Centre of Excellence “**CELLUBAST**”,
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e-mail: sekretar@inf.poznan.pl, <http://www.inf.poznan.pl>

All relevant information at: www.narossa.de

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

10:00-12:30 Plenary session

incl. welcoming of the host and two patronages, and 3 scientific presentations (INF, 1 presenter from East Europe, 1 from West Europe)

12:30-14:00 Lunch
 14:00-17:00 Scientific Sessions
 (2 parallel) at INF conference rooms
 18:30 transfer to National Museum of Agriculture and Agro-Food Industry in Szreniawa
 20:30 conference dinner and a Fashion Show

June 7, 2005, Tuesday

9:00-12:30 Scientific Sessions (incl. 90 min. Poster discussion)
 12:30-13:40 Lunch break
 13:40-15:00 Scientific Sessions
 15:00-16:00 The summing up 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.

Proposal of event with the Network involvement in 2006

Dr. Ing. Gustavo Cobreiro Suárez - the rector of Instituto Superior Politécnico José Antonio Echeverría **cujae** in Havana proposed (in November 2004, during the personal meeting of the University Dean with the Network Coordinator), to co-organize and host the next Network - conference devoted to breeding, production and the novel applications of bast fibrous and lignocellulosic raw material with a special focus on tropical plants, e.g. henequen (*A. fourcroydes*) and transfer of technology from Europe, to be held in Cuba, Havana, in 2006.

POSSIBILITIES OF COOPERATION WITH OTHER NETWORKS AND ASSOCIATIONS ON INDUSTRIAL CROPS

1. **The E-mail Forum: Information Exchange on Natural Fibres**, operated by FAO's Commodities and Trade Division, contact person: Brian Moir, FAO, Viale delle Terme di Caracalla, 00100 Rome, ITALY, Fax: +39 06 57054495, Tel: +39 06 57054339, E-mail: Brian.Moir@fao.org
 To subscribe to the forum, send an email to mailserv@mailserv.fao.org, leave the subject line blank, with the message: subscribe Fibres-Indy-L. Website: <http://www.fao.org/es/esc/>
2. **INFORM-IENICA** – Industry Network for Renewable Resources and Materials – Interactive European Network for Industrial Crops and their Applications in the new Millennium. Coordinator: Mr. Melvyn F. Askew, Defra, Central Science Laboratory at York, SAND HUTTON, YORK, UK YO41 1LZ, tel. 44-1904-462309; fax: 44-1904-462029, E-mail: m.askew@csl.gov.uk, For more data see www.ienica.net and www.industrialcrops.eu.com.
3. **Flax Council of Canada**; The Council is based in Winnipeg, with Mr. M. Barry Hall as President. The previous president Mr. Donald H. Frith retired. The address of this institution is: FLAX COUNCIL OF CANADA, 456-167 Lombard Avenue, Winnipeg, Manitoba, Canada R3B 0T6, tel.: (204) 982-2115, fax: (204) 942-1841, E-mail: flax@flaxcouncil.ca
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, Web site: www.saskflax.com
5. **The Fiber Society** with Mr. Charles A. Cannon Professor as Secretary, Director Emeritus, Nonwoven Cooperative Research Center, College of Textiles, Box 8301, North Carolina State University, Raleigh, NC 27695-8301 USA, e-mail: subhash_batra@ncsu.edu, web page URL: thefibersociety.org
6. **International Hemp Association**, Postbus 75007, 1070AA Amsterdam, The Netherlands. Tel/fax: +31 (0)20 618-8758, E-mail: 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
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, www.occi.ab.ca



SOURCES OF INFORMATION

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

- a. http://www.fao.org/world/Regional/REU/Content/Scorena/index_en.htm [Website of ESCORENA, FAO – Regional Office for Europe]
- 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.fao.org/es/ESC/esc/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

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
- www.hemp.co.uk regarding Hemp Food Industries Association Contact person: Mr. Paul Beinheim, e-mail: 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
- **INFORMIENICA project** [Contract No QLK5-2000-00111]: the European Commission funded 3-b project, started in April 2001.

The EC/Brussels merged two independently submitted INFORRM and IENICA projects to act jointly and in close cooperation (*within Concerted Actions*).

IENICA is the Interactive European Network for Industrial Crops and their Applications in the Changing Millennium. Coordinator: Mr. Melvyn F. Askew, Defra, Central Science Laboratory at York, SAND HUTTON, YORK, UK YO41 1LZ, tel.: 44-1904-462309; fax: 44-1904-462029, e-mail: m.askew@csl.gov.uk, <http://www.ienica.net>). It is a 3-year project, which is the first market-driven overview of the prospects for alternative crops and the industrial crop situation in Europe. There are 26 member countries involved in IENICA, throughout Europe and its accessing and associated states. It contributes to accessing and discovering the fascinating potential Europe has at its disposal in creating more sustainable industrial growth for future generations. The IENICA project is now coming to a close, and all work carried out by the project can be found on the website – www.ienica.net. **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.**

INFORRM is an Industry Network for Renewable Resources and Materials. The activities were coordinated by ACTIN in the UK (Alternative Crops Technology Interactive Network) and the project ran for two years. It was conceived to provide the first strategic information gateway to further aid data access across the RRM sector. INFORRM was the first RRM project, to be funded by the European Commission, to provide the opportunity for a commercial-style review of the whole sector and develop a new technique to ‘future proof’ best practice in ICT (Information and Communication Technology).



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 a 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. 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 (program of the conference see <http://www.vtt.fi/bel/cost847/meeting.htm>)



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. 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]. **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 or co-editor for USA Richard Kotek Ph.D., College of Textiles North Carolina State University, Raleigh, e-mail: rkotek@unity.ncsu.edu, tel: (919) 515-6585, fax: (919) 515-6532.

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

Journal of Natural Fibers (ISSN: 1544-0478), Content of Volume: 1 Issue: 2 2004

1. Evaluation of Some Flax Genotypes Straw Yield, Yield Components and Technological Characters, D. M. El-Hariri Ph.D., M. S. Hassanein Ph.D, Amna H.H. El-Sweify Ph.D
 2. Aspects Regarding Romanian Angora Mohair Fibers, Characteristics, Application Fields, Carmen Ghituleasa Dr. Eng., Emilia Visileanu Dr. Eng., Mihai Ciocoiu Dr. Mat. Eng.
 3. Methods of Determining the Fibre Content and Evaluating the Fibre Blending in Bicomponent Cellulose Blends, Jerzy Czekalski PhD, IWN O/PTiW, Agnieszka Patejuk-Duda MSc, IWN O/PTiW
 4. A Review on Natural Fibre Based Composites- Part 1: Structure, Processing, and Properties of Vegetable Fibres, J. Biagiotti, D. Puglia, José M. Kenny
 5. Natural vs. Man-Made Fibres- Physiological Viewpoint, Malgorzata Zimniewska, Ryszard Kozłowski, Michal Rawluk
 6. Low Dielectric Constant Material from Hollow Fibres and Plant Oil, Chang K. Hong PhD, Richard P. Wool PhD
 7. In the Circle of Colour-Exhibition in the Ethnographic Museum, Katarzyna Schmidt-Przewozna PhD, Witold Przewozny MA
- THE VOICE OF PRACTICE; Fibers and Yarn, Anwar M. Allam Agr. Eng.

REPORTS FROM CONFEENCES, SYMPOSIA, WORKSHOPS:

Internationaler Kongress für Nachwachsende Rohstoffe und Pflanzentechnologie, NAROSSA® 16-17 June 20003 Magdeburg, Germany, I. Pniewska, J. Mankowski

Report on the Workshop on Evaluation of Productivity, Economic and Agricultural Values of Fiber and Oil Flax Cultivars Grown in Europe, Maria Mackiewicz-Talarczyk, Henryk Burczyk

NEW DEVELOPMENTS IN THE INDUSTRY

Efficient Technology for the Production of Decorticated Hemp and Flax Fibres and Linseed Flax as a Raw Material for Different Industries, Ryszard Kozłowski, Jerzy Mankowski, Andrzej Kubacki

Mechanical Harvesting of Seed Hemp Based on Self-Propelled Machine, R. Kaniewski

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

PROCEEDINGS

of the European Regional and Global Workshops:

- “**FLAX IN EUROPE**”, Production and Processing, Poznań, 19- 21 June 1989 (available from the Institute of Natural Fibres)
- “**FLAX – AS A FIBRE AND OIL BEARING CROP**”, Brno, Czechoslovakia, 18-20 June 1991 (available from AGRITEC, Research, Breeding & Services Ltd, Zemědělská 16, 787 01 Šumperk, The Czech Republic, e-mail: agritec@agritec.cz)
- “**FLAX IN THE WORLD**” Bonn, Germany, 15-17 June 1993 (available from the Institute of Natural Fibres)
- “**PRODUCING FOR THE MARKET**” – Proceedings of the 4th European Regional Workshop on Flax, 25-28 September 1996, Rouen, France (available at the Institut Technique du Lin 5, Rue Cardinal Mercier, 75009 Paris, France, tel.: +33/1 42 80 40 56, fax: +33/ 1 45 26 24 27)
- “**BAST PLANTS IN THE NEW MILLENNIUM**” – Proceedings of the Second Global Workshop, 3-6 June, 2001, Borovets, Bulgaria
- CD Proceedings of “Bast Fibrous Plants for Healthy Life”, October 24-28, 2004, Banja Luka, Bosnia and Herzegovina, Republic of Srpska

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

- The First Flax Genetic Resources Workshop, Poznań, 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, Poznań, Poland
- Modern Flax Processing – The First Workshop of the Extraction and Processing Working Group, 15-16 March 1995, INF, Poznań, 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, Poznań, 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, Poznań, 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, Poznań, 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, Poznań, 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, Poznań, 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
- Proceedings of the Workshop of the FAO/ESCORENA Network: Mapping of European Germplasm for International Flax Data Base Creation, use in Breeding for different Flax and Linseed Varieties, September 18 – 19, 2002, Šumperk, Czech Republic
- CD Proceedings of the Conference “Flax and Allied Fibre Plants for Human Welfare”, December 8-11, 2003, NRC, , Cairo, Egypt
- CD Proceedings of the Conference 11th International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005, Institute of Natural Fibres, Poznan, Poland, June 6-7, 2005

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
- FIBRES & TEXTILES in Eastern Europe, published by the Institute of Chemical Fibres, Lodz, Poland, e-mail: iwch@mazurek.man.lodz.pl
- Green – Tech Newsletter. Edited by Prof. Dr. Hans Derksen – chairman of the Platform for Renewable Raw Materials P.O. Box 822, 3700 AV Zeist, The Netherlands. fax: +31 (0) 30 691 73 94
- Fabulous Fibre. The Natural Fibre Centre Newsletter. Olds College Centre for Innovation Natural Fibre Centre (OCCI), 4500 –50th Street, Olds, Alberta, Canada T4H 1R6, tel.: (403) 507-5206, fax: (403) 507-7977, e-mail: relvestad@admin.oldscollege.ab.ca, 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 (bi-annual)
- Journal of Ivanovo State Textile Academy, Ivanovo, Russia: Scientific and Technical Journal – Technology of Textile Industry (available at <http://education.ivanovo.ru/IGTA/OURJOURN.htm>)
- International Textile Bulletin and Nonwovens/Industrial Textiles. Published by ITS Publishing. International Textile Service P.O. Box, CH-8952 Schlieren/Zürich, Switzerland
- CSL News, published by Central Science Laboratory, Sand Hutton, York, UK. e-mail: science@cls.gov.uk
- The newest issue of the Journal of Textile and Apparel, Technology and Management (JTATM), is available (<http://www.tx.ncsu.edu/jtatm>)
- Kozłowski R, Władysław-Przybylak M.: Chapter 10 Natural Polymers Wood and Lignocellulosic. – in book “ Fire Retardant Materials” ed. by Horrocks, Woodhead Publishing Limited, Cambridge, Great Britain, 1999
- Kozłowski R., Władysław-Przybylak M: Chapter 14 Uses of Natural Fiber Reinforced Plastics in book "Natural Fibers, Plastics and Composites” ed.by F.T. Wallenberger and Norman E.Weston Kluwer Academic Publishers, Boston, Dordrecht, New York, London 2004
- Cook Gordon J.: Handbook of Textile Fibres. 5th ed. Cambridge England: Woodhead Publishing Ltd., 2001
- Schenk Anton: Naturfaser Lexikon. Frankfurt am Main: Deutscher Fachverlag, 2000
- V. V. Zhivetin, L. N. Ginzburg, O. M. Ol'sanskaja: Len i Jego Kompleksnoje ispol'zovanie (Flax and its Complex Utilization- publication in Russian). M.: Inform-Znanije, 2002. Moscow, Russia
- 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) – International Hemp Association in the Netherlands, edited by The HAWORTH Press, INC, New York, London, Norwood (Australia), e-mail: BCohen7719@aol.com, <http://www.haworthpress.com>
- Journal of Cannabis Therapeutics – a sister journal of Journal of Industrial Hemp, edited by The HAWORTH Press, INC. (New York, London, Norwood (Australia), e-mail: BCohen7719@aol.com
- Leson Gero, Pless Petra: Hemp Food and Oil for Health – Your Guide to Cooking, Nutrition, and Baby Care; HEMPTECH, 64 p., Sebastopol 06/99
- Roulac John W.: Industrial Hemp, Practical Products – Paper to Fabric to Cosmetics. HEMPTECH/Chelsea Green Publishing, 50 p., Sebastopol 06/96 [john@hemptech.com, HEMPTECH, (707) 823-2800, www.hemptech.com,

P.O. Box 1716 Sebastopol, California 95473 <+> fax (707) 823-2424, fax orders: (419) 281-6883, e-mail orders: orders@bookmaster.com.

- Bocsa I., Karus M.: The Cultivation of Hemp – Botany, Varieties, Cultivation and Harvesting. HEMPTECH/Chelsea Green Publishing, 186 p., Sebastopol 02/98
- Grotenhermen F., Karus M., Lohmeyer D.: Hemp Foods and THC Levels: A Scientific Assessment. HEMPTECH/Chelsea Green Publishing, 67 p., Sebastopol 10/98
- The Hemp Commerce & Farming Report, (c) 1999 Ahem, Arthur Hanks. Contact at the e-mail address: jfreeman@ssm.net, <http://www.hempreport.com>
- John E. Dvorak, e-mail: boston.hemp@pobox.com invites you to visit the archives by performing a DejaNews power search for Dvorak, hemp, and archives: http://www.dejanews.com/home_ps.shtml
- 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 2005

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

- FAO/SCORENA International Conference *“Textiles for Sustainable Development”*, organized by FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, to be hosted and co-organized by CSIR, Centre for Fibres, Textiles & Clothing Manufacturing & Materials Technology, Port Elizabeth in South Africa, October 23-27, 2005. or more details see: www.textileconference2005.co.za
Contact: TECHNICAL AND RELATED TO ABSTRACTS/PAPERS: Dr. Rajesh Anandjiwala, national Conference Co-ordinator, National Centre for Fibre, Textile and Clothing, Manufacturing and Materials, CSIR, P.O. Box 1124, Gomery Avenue Summerstrand, Port Elizabeth 6000, South Africa, Phone: ++27-41-508 3200, fax: ++27-41-583 2325 or ++27-41-508 3268, e-mail: ranandi@csir.co.za or Rajesh.Anandjiwala@upe.ac.za

Prof. Dr. Ryszard Kozłowski, Coordinator of FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, General Director, Institute of Natural Fibres, 60-630 Poznan, Poland, Phone: +48 61 8 480-061, fax: ++48 61 841 7830, e-mail: sekretar@inf.poznan.pl

- *11th 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: narossa@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 at: www.narossa.de

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

- February 20-22, 2005. COST 847 “Textile Quality and Biotechnology” Final Workshop, Gran Canaria, Spain (program and other details see of the conference see <http://www.vtt.fi/bel/cost847/meeting.htm>
Contact: Dr. Tzanko Tzanov, Universitat Politècnica de Catalunya, Departament d'Enginyeria Química EUETIT, Colom, 1, 08222 Terrassa (Barcelona), Tel.: +34 93 739 87 61, fax +34 93 739 8225, Mobile +34 628081722, e-mail tzanko.tzanov@upc.edu

- February 28 – March 3, 2005. **“Innovations in the Production of the new Generation Flax Products”, The 8th All-Russian Fair/Exhibition/Conference „Russian Flax” 2005**, Vologda, Russia. Organizer: FGUP TSNIILKA - The Federal State Enterprise - Central Scientific-Research Institute for Integrated Automation of Light Industry, Contact: Moscow, Russia, Tel: +70 (95) 236-05-71, fax: 237-35-45, 236-46-59, e-mail: director @tsniilka.ru. The event includes as well the seminar on the tendencies in Fashion, the competition “Flax in Russian products” — of flax fabrics, materials, cloth and shoes, and relevant accessories, the exhibition “The science for industry”
- January 28-31, 2005. **1st 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, <http://www.edutex.org>
- 2nd International Conference “**Textile Processing State of the Art & Future Development**“, April 11-13, 2005, National Research Center (NRC), Cairo, Egypt. Contact person: Prof. Dr. Mohamed Abou Shosha, Textile Research Division, National Research Center, Dokki, Cairo, Egypt, tel : 0020-23669933, fax : 0020-23363261, e-mail : conf@trd-egypt.org, website : www.trd-Egypt.org
- April 22-28, 2005. **8th ICFPAM - 8th International Conference on Frontiers of Polymers and Advanced Materials**. Cancún,, 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, Prof.G. Burillo, e-mail: burillo@nuclecu.unam.mx
- May 19-21, 2005. **5th 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
- 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, www.sudt.ru/interconf-fm-XXI.html
- May 27-29, 2005. **6th Scientific Seminar of the Students’ Scientific Circle for Textile Processes Automation, ‘Textronics, Measurements and Automation in Textile Science and Industry’**, Konopnica, Poland. Organiser: Technical University of Lodź, Faculty of Textile Engineering and Marketing, Lodź, Poland. For more information please contact: Technical University of Lodź, Faculty of Textile Engineering and Marketing, ul. Zeromskiego 116, 90-543 Lodź, Poland
- June 7-9, 2005. **TECHTEXTIL - International Trade Fair for Technical Textiles and Nonwovens - and AVANTEX - International Innovation Forum for Innovative Apparel Textiles**, Frankfurt am Main, Germany. Contact: Messe Frankfurt GmbH Techtextil/Avantex Team, Postfach 150210, D-60062 Frankfurt am Main, Tel.: +49 69 7575-6179, -6712, -6840, fax +49 69 7575-6541, e-mail: techtextil@messefrankfurt.com, avantex@messefrankfurt.com, Website: www.techtextil.com, www.avantex.de
- 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>
- July 13-15, 2005 **2nd International Technical Textiles Congress**, Istanbul, Turkey. Contact: Ass. Prof. Dr. Merih SARIİŞİK, President of the Congress Committee, Dokuz Eylül University Engineering Faculty, Textile Engineering Department, 35100 Bornova, İzmir / TURKEY, Phone: +90 (232) 388 28 69, fax: +90 (232) 388 78 67, e-mail: teknikteksstil2005@deu.edu.tr, <http://web.deu.edu.tr/ttk>
- September 7-9, 2005. **5th International Conference IN-TECH-ED, Innovation - Technics - Education in the Textile**, Garment, Leather, Paper, Printing, and Packaging Industries, Motto: ‘With competitive knowledge for the future’, Budapest, Hungary. Contact: Livia Kokas Palicska, Budapest tech, RKK, Tel.: 361 3887 400, fax: 361 3886 730, e-mail: kokas.livia@rkk.bmf.hu, <http://inteched.rkk.bmf.hu>
- September 14-17, 2005. **5th International Scientific Conference on Production Engineering RIM 2005**, , Bihac, Bosnia and Herzegovina, Contact: Faculty of Technical Engineering, Bihac, Dr. Irfan Ljubijankic, tel./fax: +387 37 226 273, 226 271, 226 270, e-mail: tfb@bih.net.ba, www.rim-2005.ba
- 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, website: www.aaic.org/2005mtg.htm
- September 2005, **TECHTEXTIL Rossija, International Trade Fair for Technical Textiles, Nonwovens and Protective Clothing**, Moscow, Russia, Organiser: Messe Frankfurt RUS O.O.O. For more information please contact: Messe Frankfurt RUS O.O.O, ul. Profsoyuznaya 23, 117997 Moscow, Russia, tel.: +7 095 721 1057/ -58/ -59, fax: +7 095 783 2326, Mrs. Oksana Yavorovskaya, e-mail: oxana.yavorovskaya@russia.messefrankfurt.com , Mrs. Lisa Schuertzmann, e-mail: lisa.schuertzmann@russia.messefrankfurt.com
- September/October 2005, **60th Anniversary of the Textile Research Institute in Lodź, Scientific Session ‘New Faces of Textile Science and Industry in Relation to the Needs of Economy’**, Lodź, Poland, Organiser: Textile Research Institute, Lodź, Poland, Contact: Textile Research Institute, ul. Brzezinska 5/15, 92-103 Lodź, Poland, tel.: +48 42 616 31 00, fax: +48 42 679 26 38, e-mail: info@mail.iw.lodz.pl

➤ October 4-5, 2005. *International symposium 'Nanotechnologies in textiles' INTERNANO-TEX*, Lodź, Poland, Organisers: Technical University of Lodź, Faculty of Textile Engineering and Marketing, Department of Man-made Fibres; Trade Union of Employers of Knitting Industry, Chairman of the Organising Committee: Prof. Bogumil Laszkiewicz, Ph.D., D.Sc..Contact: Piotr Kulpinski, Ph.D., Tel.: +48 (42) 631 33 62, fax: +48 (42) 637 20 40, e-mail: internanotex@mail.p.lodz.pl

2006

May 8-10, 2006. 5th European Motor BioFuels Forum, Hilton Newcastle-Gateshead. Contact: EUROPOINT, Congress & Exhibition Organisers, Ms. Marieke Bouman, P. O. Box 822, 3700 AV ZEIST, The Netherlands, Tel.: +32 (0) 30 6933 489, fax: +32 (0) 30 6917 394, e-mail: mbouman@europoint-bv.com, web: www.europoint-bv.com

REPORTS ON THE EVENTS

**Report on the conference “*BAST FIBROUS PLANTS FOR HEALTHY LIFE*”,
3rd GLOBAL WORKSHOP (GENERAL CONSULTATION) OF THE FAO/SCORENA EUROPEAN
COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS, hold on October 24-28, 2004
in Banja Luka, Bosnia and Herzegovina, Republic of Srpska**

The 3rd Global Workshop was organized as the world conference of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, which acts under the auspices of FAO Regional Office for Europe in Rome, within the SCORENA (European System of Cooperative Research Networks in Agriculture) The event was in Banja Luka, Republic of Srpska, on October 24-28, 2004.

The event was organized by Coordination Center of the FAO European Cooperative Research Network on Flax and other Bast Plants at the Institute of Natural Fibres, Poznan, Poland, in collaboration with Agricultural Institute of Republic of Srpska– Poljoprivredni Institut Republike Srpske, Banja Luka

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.

The event was sponsored by: Ministry of Agriculture, Forestry and Water Management of Republic of Srpska, Town Banja Luka, Ministry of Science and Technology of Republic of Srpska, Federal Ministry of Agriculture, Forestry and Water Management, Government of Brcko district, Research Institute of Field and Vegetable Crops Novi Sad, Polish Ministry of Scientific Research and Information Technology, The HAWORTH Press Inc., New York, USA.

The event was attended by 156 experts from 22 countries: Bulgaria, Bosnia and Herzegovina, Belgium, China, Czech Republic, Croatia, Egypt, Germany, Hungary, Italy, Lithuania, Northern Ireland, Norway, Poland, Portugal, Serbia and Montenegro, Slovak Republic, Slovenia, Sweden, Republic of Macedonia, Republic of South Africa, UK.

The prominent representatives of the Government and Ministries of Bosnia and Herzegovina were involved in the organization of this event, have been supporting financially, were present at the opening ceremony of the event, namely: Mr. D. Čavic President of Republic of Srpska, Mr. D. Mikerevic President of Republic of Srpska Government, Mr. M. Ivanic Minister for Foreign Affairs, Mr. M. Božic Minister of Agriculture Forestry and Water Management of Federation of Bosnia and Herzegovina, Mr. R. Trkulja Minister of Agriculture Forestry and Water Management of Republic of Srpska, Mr. D. Davidovic Mayor of Banja Luka Town, Mr. M. M. Amovic Chief of Department for Natural Resources, Council of Ministries of BiH, Ministry of Foreign Trade and Economic Relations, Sarajevo.

The major goal was to contribute to the revival of the flax and hemp production and processing, as well as textile industry development. It is important to notice, that parallel with the organisation of the conference, more scientific and production trials with flax and hemp in not only in Republic of Srpska, Bosnia and Herzegovina, but all Balkans have been conducted on different locations. The results of the trials, the endeavours with the traditional and new varieties of flax and hemp and their processing have been presented during the conference.

The another target was to create a chance for enlargement of scientific, and economic contacts, as well as further developments of the international cooperation.

The presentations of

The Third Global Workshop in Banja Luka have been organized within 5 consecutive 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.

Thirty two papers and 48 posters have been presented within these scientific sessions.

The Coordination Centre of the Network prepared and edited the conference materials on the CD.

The democratic vote confirmed prof. Dr. Ryszard Kozłowski, the Director General of The Institute of Natural Fibres, Poznań, Poland to continue to act as the coordinator of the Network and Mrs. Maria Mackiewicz-Talarczyk as the Secretary of the Network Coordination Centre.

The 3rd Global Workshop provided comprehensive knowledge and forum for the discussion and exchange of idea in the large scope of lignocellulosic raw materials, including molecular biology, genetics, breeding, cultivation, harvesting, fibre extraction, processing, diversified, novel utilization. It gave a new approach to quality assessment, new testing methods, and economic aspects. The beneficial influence of natural fibres and products on human health have been revealed and presented.

Prepared by: Mrs. Maria Mackiewicz-Talarczyk, Network Secretary

Report of the Network Coordinator

by Prof. Dr Ryszard Kozłowski, Coordinator of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants on Activities in 1988-2004

Presented during the 3rd GLOBAL WORKSHOP OF THE FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants – Banja Luka, Bosnia and Herzegovina, Republic of Srpska, October 24-25, 2004

Ladies and Gentlemen,

It gives me a great pleasure to welcome flax and hemp people from all over the world, attending the 3rd Global Workshop of the Network, which is the Global Technical Meeting of the FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants. The traditional name of the world conference of the Network was the European Regional Workshop on Flax, then General Consultation. It means, that de facto we are just holding the 6th world conference of our organization.

Since our last Global Workshop on Bulgaria (2001), we have been observing continuous growing interest in production and utilization of bast fibrous raw material, such as flax, industrial hemp, jute, ramie, kenaf and such like.

The Network deals with all these plants research, marketing, novel utilization.

The main goals of the Network are:

1. Simplifying collaboration and sharing knowledge among scientists and experts from industry and trade
2. Organizing conferences and meetings and world-wide circulation of proceedings
3. Genetic resources of flax: status quo in the particular countries and input in International Flax Data Base
4. Analyses of bast fibrous plants world market and its future trends
5. Collection of statistical data on flax, hemp and other bast plants
6. Consulting services, experts data base
7. Focus on new, eco-friendly textile and non-textile applications of bast fibrous plants and by-products and recultivation of polluted areas
8. Conducting cooperative research
9. Assisting transfer of technology and know-how
10. Contributing to the development of rural areas of South America, Africa and Asia

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

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

To present you the development from the ad Hoc Research Group to the Network acting within SCORENA system, I would like to recall some history. The Network acted in the beginning as the ad Hoc Research Group on Flax with myself as

President. It is worth mentioning that in 1988, FAO authorities in Rome requested of the Institute of Natural Fibres, Poznań, Poland, the preparation of a study on the possibilities for scientific cooperation on flax production and processing in Europe – prepared by Prof. Dr J. Wasko. The study was greatly appreciated and it resulted in 1989 that permission was granted to organize in Poznań the First European Regional Workshop on Flax.

In The First European Regional Workshop on Flax in Poznań in 1989, 89 experts from 12 countries participated where twenty-six papers were presented. May I remind that the topics presented covered all aspects connected with breeding, cultivation and processing of flax.

The Second European Regional Workshop on Flax took place in Brno, Czechoslovakia in 1991. 112 participants attended this Workshop from 17 countries. Forty-nine scientific and technical papers and posters were presented in four sessions; they covered mainly breeding and agro technology.

The Third European Regional Workshop on Flax took place in Bonn, Germany in 1993.

100 persons attended the Workshop from 13 countries. Twenty-five scientific and technical papers were presented and discussed in five consecutive sessions, each dealing with a general review of the flax industry, harvesting, processing, quality and research requirements.

The Third European Regional Workshop on Flax took place in Rouen, France in 1996, attended by 220 participants from 29 countries. This time FAO started to call the Workshops The First General Consultation (Global Workshop). The major output of this Workshop was that the FAO accepted officially the enlargement of the Network by including the other bast plants into the scope of activities, which resulted in the new official name: FAO/SCORENA European Cooperative Research Network on Flax and other Bast Plants, which have opened the door towards the globalization of the Network

The Second General Consultation – the second Global Workshop took place in Borovets, Bulgaria in 2001, attended by 84 experts from 22 countries. The Global Workshop in Bulgaria contributed to enlargement of the scope of activities by including jute, kenaf, ramie and alike plants.

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, Republic of Serbia, Romania, Russia, Slovakia, Spain, South Africa, Sweden, Switzerland, Thailand, Turkey, UK, Ukraine, and the USA.

The Network is represented in North America by Dr Paul Kolodziejczyk (POS Pilot Plant Corporation Saskatoon, Canada), in South America by Prof. Dr Alcides L. Leão (unesp-Universidade Estadual Paulista, Botucatu, Brazil) and Engineer Daniel Sorlino, University of Buenos Aires. In the Near East by Prof. Dr Dardiri Mohamed El-Hariri (National Research Centre, Cairo, Egypt).

Let me present the main achievements of the Ad Hoc Research Group and the FAO Network on Flax in a comprehensive way: During 15 years of activities, the Flax Group and the Network organized 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-organized 10 international conferences and issued 21 publications as well as 21 EUROFLAX Newsletters.

The most important achievements of the Working Groups will be presented by the Working Groups' chairmen and will consist a separate documents enclosed to this report.

Our future work plan to be discussed during this conference includes:

Future Plans

2005

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, in October 23-27, 2005.

We need to answer such questions during the Global Workshop:

1. Date and the location of the next Global Workshop
2. Considering the enlargement of the Network, proposed by the European Commission on Agriculture: to include cotton into the scope of activities and enlargement to the Inter-regional range
3. I proposed to consider 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, to include topics connected with the presence of the fibre crop in the field: soil tillage; crop establishment (sowing); fertilisation; weed control; harvesting; plant physiology; interaction soil-crop and crop-environment (this last subject is not so relevant for flax but it is assuming more importance for hemp); first transformation at the farm, logistics of the transport and storage and, more in

general, all the practices that can be included in agro-technique. We are looking forward to your comments and proposals.

4. To consider the resignation of Albert Daenekindt, the WG3 chairman
5. Other matters as a result of the discussion and conclusions.

As far as the future plans and financial situation of the Network are concerned, 33rd Session of the European Commission on Agriculture (ECA) discussed the future of ESCORENA system. The ECA expressed the Regional Office for Europe together with FAO's technical divisions, which had supported activities of the European System of Cooperative Research Networks in Agriculture (ESCORENA) for many years, due to the present financial restrictions FAO is facing need to identify alternative resources in order to maintain the coordination of the networks.

The proposal if ECA session in March 2004 was discussed for the creation of a trust fund for ESCORENA for the functioning of the networks (\$7,500 per year for each network) and a budget to finance the formulation of projects proposed by the networks for submission to donors. It means that we need to formulate projects on behalf of the Network, and I am looking forward to have your ideas and contributions.

The ECA has reviewed the activities of ESCORENA Networks and proposed to merge the Cotton Network with the Flax Network. Regarding the proposal to merge the Cotton and Flax Networks, incorporate Cotton Network into the network on flax, which would then become the "Network on Fibre Crops". It was noted that the maintenance of a separate Cotton Network would require support of a national institution and additional funding.

ECA included our Network into networks with activities appropriate for support. Our network was suggested to develop multipurpose crops and was underlined that growing flax provides significant agricultural, industrial, artisan and trade employment and satisfies a variety of nutritional (oil rich in Omega 3), clothing and cosmetic needs.

The idea was emphasized to conserve the biodiversity of natural plant and animal resources: for example, the storing of gene banks in most networks (olives, dry fruits, flax, sunflower, rice, fodder seeds, buffalo sperm). We have to include works in scope of genetics and varietal improvement.

Additionally in July 2004, we continued endeavors aimed at finding the new sources of financial support for Network activities, namely we exchanged the correspondence between the coordination Centre and the Member of the European Commission Mr. Philippe Busquin (the copies of those letters are presented in the recent EUROFLAX Newsletter No 21, chapter: ACTIVITIES OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS. Mr. Busquin expressed his opinion, 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 we had to be congratulated. But finally, he mentioned he regretted to say that there is no mechanism to provide additional support to our network in an *ad hoc* manner. HE suggested, if the Network Coordinator is 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). Although no specific topic is currently in your subject area, the work programs are amended regularly and it is always worth reviewing the site from time-to-time.

As Coordinator of FAO/ESCORENA European Network, it is my privilege to express my sincere thanks to the representatives of the FAO Regional Office for Europe: Dr. Marian Brzoska, Dr. Alexander Bozzini, Prof. Dr Jean Boyazoglu, Dr. Hayati Ölez, Mr. J. Pérez de Vega, Mr. Milan Zjalic, Dr. Rainer Krell, Ms. Daniela Moro, Isabelle Fernandez, Ms. Claude Forthomme and Mr. Michel Larbier without whose great assistance and support the success and development of the Network would not have been possible.

I would like to express my special thanks to Ministries of Bosnia and Herzegovina, Republic of Srpska and local organizing teams for their support, involvement and input in the organization of this conference. Especially let me mention the team of Professor Jovo Stojic-the Director of the Agricultural Institute of the Republic of Srpska Banja Luka.

Particularly do I wish to express my thanks to all my colleague-members for your wonderful work conducted quite voluntarily for the benefit of mankind, and for the Network, indirectly. I want to thank All Others who assisted us with their experiences or financial support. Thank you for your attention. Prepared by R. Kozlowski and M. Mackiewicz- Talarczyk



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 ^x	142 ^x	110
BELARUS	80000	***70000	81800	°	67333 [°]	71708 [°]	79146
BELGIUM	**11211	**12176	****13355	****16990	15567 ^x	19250 ^x	19800 ^{*/}
BULGARIA	***58	***58	300	210	470	150 [°]	70
CHINA	***101000	***101000	°	°	°	°	
CZECH REPUBLIC	4117	6348	6302-linseed; 2240-fibre flax	7095	5885	5900	5500
DENMARK	*44	11	*45	*19	0 ^x	0 ^x	
EGYPT**	14000	14500	°	°	°	°	
ESTONIA	***323	115	137	89	30	17	0
FINLAND	613	850	*1067	*405	202 ^x	97 ^x	67
FRANCE	*43708	*49129	****55629	****67970	68416	76439 ^x	80000 ^{*/}
GERMANY	*416	*570	402*	*297	299 ^x	225	180
IRELAND	1*	°	°	****0	°	°	
ITALY	°	°	°	****1	0 ^x	20 ^x	80
LATVIA	***2200	***2000	300-linseed; 1600-fibre flax	°	°	°	2400
LITHUANIA	6500	8600	8600	9 600	9346	9444	5600
NETHERLANDS	*3306	*3570	*4016	*4415	4000 ^x	4615 ^x	4.500 ^{*/}
POLAND	2548	1223	4082	4900	4900	6000	6500
PORTUGAL	*1500	4678*	****3522*	****0	0	°	
RUSSIA	107340	104050	107 610	127 340	110820	118060	112300
SPAIN	*87727	*122400	****13595	*342	60 ^x	2 ^x	
SWEDEN	*320	*1327	*21	****32	25	0	30
UKRAINE	31200	***21900	19300	28280	28200	27000 [°]	38290
UNITED KINGDOM	*16700	*14000	****11816	*4430	156 ^x	175 ^x	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. Daenekindt: 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^{ème} 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">wasted parts of the straw; dew retted price: up to 3.10 EURO/100kgwasted parts of the straw price: 4.0 EURO/100kgby-products from deseeding price: 2.48 EURO/100kgshort scutched fibre wastes: from 10.00 EURO/100kgshives used for particleboard production: from 0.74 EURO/100 kg			

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

	1998	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	80000	70000	81800		67333	71708	79146

sent by: P.P. Gulevich, Ministry of Agriculture of the Rep. of Belarus, Minsk, Belarus (1996, 1997)

I.J. Jarmolovitch, Ministry of Statistics and Analysis of RB, Minsk, Belarus (2000)

National Academy of Sciences of Belarus, Institute of Genetics and Cytology, Minsk, Belarus

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 ²]		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. Šmirous, S. Krmela

Flax Union CR, Šumperk-Temenice, Czech Republic

ESTONIA**Fibre Flax**

	1997	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	323	115	137	89	30	17	0
Straw yield [t/ha]	0,198	0,513	0,577	1,180	1,971	0	0
Long fibre yield [t/ha]							
Long fibre production [t]							
Short fibre yield [t/ha]							
Short fibre production [t]							
Percentage of dew retting [%]							
Mill consumption of flax [t]							
Linseed yield [t/ha]	0,303	0,513	0,831	0,931	0,916	0,532	0,991
Yarn production [t] (wet + dry spinning)							
Production of textiles [1000 m]x)	10	3910	7058	9376
Particleboards production [m ²]							
Export of seed [t]xx)	0	0	0	0	0	0	
Export of yarn [t]	79	334	1189	807	896	1266	
Export of fibre [t]	44	17	49	125	223	49	
Export of linen textiles (fabrics) [1000 m]							
Export of cloth [1000 m ²]	6	4053	6730	9084	8653	8206	
Import of fibre [t]	154	1486	2822	3021	2440	2553	
Import of yarn [t]	12	179	222	98	518	477	

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

*) data for the previous years are revised;

**) data on export, import are presented by the special trade system;

... data not available

- magnitude nil

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

FINLAND

	1998	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	613	850	1067	405	202	97	67

sent by: Juha Pirkkamaa, Agropolis Ltd, Agropolis-Engineering, 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**/	2000**/	2001	2002	2003	2004
Fibre Flax Cultivated area [ha]	6500	8 600	8 600	9600	9346	9444 plus 200 ha linseed	5600 plus 200 ha linseed

sent by: */ calculated data

sent by: **/ O. Juknevičienė, Minist. of Agricul., Dep. of Strategy of Plant Production, Prospekt Gedimino 19, Vilnius, Lithuania; completed by Dr. Director Algimantas Endriukaitis, LIA – The Lithuanian Institute of Agriculture Upyte Research Station, Linininku 3, Upyte, 38 294 Panevezys Distr., LITHUANIA

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. Smarzynski, Polish Flax Foundation, Institute of Natural Fibres, Poznan, Poland (to 1999)

* / estimated data; ** / in 1000m²; ^{1/} 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

Data about fibre Flax

	1998	1999	2000	2001	2002	2003	2004
Cultivated area [ha]	107340	104050	107610	127340	110820	118060	112300
Straw yield [t/ha] ¹	1.98	1.62	2.43	2.24	2.09	2.85	2.46
Long fibre yield [t/ha] ¹	0.43	0.36	0.55	0.5	0.47	0.66	0.58
Long fibre production [t] ²	33540	23700	51170	58000	37730	55290	58020
Short fibre yield [t/ha]							
Short fibre production [t]							
Percentage of dew retting [%]							
Mill consumption of flax [t]							
Seed yield [t/ha] ¹	0.15	0.20	0.21	0.21	0.20	0.18	0.17
Yarn production [t] ³ (wet + dry spinning) single-thread yarn	17093	20108	19806	22012	23189	25067	26088 ⁵
Production of textiles [mln m ²] ⁴	68,8	90,4	113	125	143	157	159 ⁵
Particleboards production [m ²]							
Export of seed [t]							
Export of yarn [t]							
Export of fibre [t]							
Export of linen textiles (fabrics) [1000 m]							
Export of cloth (1000 m ²)							
Import of fibre [t]							
Import of yarn [t]							
Import of textiles [1000 m]							
Import of seed [t]							
Import of linen cloth [1000 m]							

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

¹) for 1ha harvested area; ²) data for long fibred flax; ³) unifilar linen yarn; ⁴) linen textiles finished; ⁵) data for year 2004 are preliminary.

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

* / in mln m²

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*	
Total area in EU	*13658	*23216	*39990	*30179	**20404	**14584
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

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FUTURE PLANS

2005

- 11th International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005, June 6-7, 2005, Institute of Natural Fibres (INF), Poznan, Poland
- FAO/SCORENA International Conference "Textiles for sustainable development", hosted and supported by CSIR, South Africa, Institute of Natural Fibres, Poland and South African Government Organizations, Port Elizabeth in South Africa, October 23-27, 2005.

Future endeavors: Efforts towards creation of the European Platform for Lignocellulosic Raw Materials, Contributing to the organization by FAO the International Year of Natural Fibres, Searching for projects, to support financially the Network activities

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 Poznan.

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CONTENTS

STRUCTURE OF THE NETWORK	2
WORKING GROUP NEWS	4
<i>Report on activities of WG/1. Breeding and Genetic Resources</i>	4
<i>Report on activities of WG/2. Extraction and Processing</i>	7
<i>Report on the activities of WG/4. Quality</i>	8
FLAX, HEMP AND ALLIED FIBRES IN THE WORLD	10
<i>Current Situation in Flax Industry in Russia and Actual Agricultural Research Tasks in this Field</i>	10
<i>Ecofibre Industries Limited – pursuing the Hemp Fibre Industry in Australia</i>	13
ACTIVITIES OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS	14
NEXT CONFERENCES PROPOSALS.....	14
<i>Conference Textiles For Sustainable Developments in South Africa</i>	14
<i>11th International Conference on Renewable Resources and Plant Biotechnology NAROSSA® 2005</i>	16
<i>Proposal of event with the Network involvement in 2006</i>	17
POSSIBILITIES OF COOPERATION WITH OTHER NETWORKS AND ASSOCIATIONS ON INDUSTRIAL CROPS	17
SOURCES OF INFORMATION	18
LINKS OF THE FAO/SCORENA EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS WITH DIFFERENT NETWORKS AND PROJECTS	18
NEWS ABOUT THE EUROPEAN PROJECTS WITH INVOLVEMENT OF NETWORK MEMBERS	19
NEWS REGARDING PUBLICATIONS ON NATURAL FIBRES	20
PUBLISHING ACTIVITY OF THE FAO EUROPEAN COOPERATIVE RESEARCH NETWORK ON FLAX AND OTHER BAST PLANTS SINCE 1989.....	20
<i>JOURNAL OF NATURAL FIBERS</i>	20
<i>EUROFLAX Newsletter</i>	21
<i>PROCEEDINGS</i>	21
<i>OTHER RELATED PUBLICATIONS</i>	22
INFORMATION ABOUT INTERNATIONAL CONFERENCES ON NATURAL, LIGNOCELLULOSIC FIBRES AND TEXTILES	23
REPORTS ON THE EVENTS	26
<i>Report on the conference “BAST FIBROUS PLANTS FOR HEALTHY LIFE”,</i>	26
<i>Report of the Network Coordinator</i>	27
STATISTICAL DATA ON FLAX	30
<i>FLAX CULTIVATED AREA IN THE WORLD [ha]</i>	30
<i>LINEN MARKET/PRICES IN THE EU</i>	31
<i>COUNTRY DATA ON FIBRE FLAX</i>	33
<i>STATISTICAL DATA ON INDUSTRIAL HEMP</i>	36
FUTURE PLANS	37
CONTENTS	38