



# IENICA



**Interactive European Network for Industrial Crops and their Applications**

**Newsletter number 24**

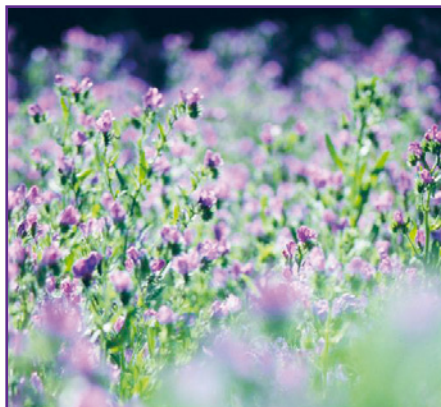
**March 2005**

## **A Breakthrough for Europe: An Opportunity to Exploit Sustainable Biorenewables**

With the need for sustainability and an improved global atmosphere being widely recognised it has become essential to exploit the potential of non-food products from plants.

The original concept of the first IENICA project was to characterise markets for biorenewables in EU-15. This was particularly important since the European Commission had invested many millions of Euros in fundamental Research and Development but no such data on markets and market constraints existed. The success of IENICA in achieving this was summed up by Ciaran Mangan of DG Research in his preface to IENICA's European summary report:

*"Thanks to IENICA, the [European] Community now has at its disposal the first ever concrete review of the industrial crop situation in Europe. It is hoped that this will be seen as a bench-mark document which can be used by interested parties in accessing and discovering the fascinating potential Europe has at its disposal in creating more sustainable industrial growth for future generations".*



Interestingly it was shown that the markets for biorenewables in EU-15, excluding biofuels and the new polymers, were reasonably well identified in specialist parts of individual market sectors, but that never before had the individual sectors been linked in any overarching study. It was also interesting to note that many of the end users of biorenewable feedstocks were totally unaware of what was available to them. Similarly, agriculturalists and others in the European rural economy had little idea of how industry could use their produce in the non-food sector. Therefore a very large market, probably exceeding 15 billion Euros end product value, was substantially undersupplied. One of the first big accomplishments of IENICA was therefore to create awareness of the potential for non-food crop products - successfully achieved through the IENICA website ([www.ienica.net](http://www.ienica.net)) which receives many thousands of visitors and enquiries each year.

Continuing from the first IENICA project, with Framework Programme 5 funding, the INFORRM-IENICA project involved the new, enlarged Europe - with 12 new countries from Europe's

Accessing and Associated States. Their markets were characterised as had been the case in the first IENICA project, to bring all partners to the same stage of market identification. Data has also been summarised on an EU-25 basis, plus Romania, Bulgaria, Israel and Switzerland (see later).

Another key element was to ensure that there were specifications for agricultural feedstocks for industry. Since the big market sectors, other than starch, had been identified as lubricants, solvents and fibres, efforts were made to identify and report potential specifications for feedstocks for them. In addition, at the request of Copa-Cogeca, an Agronomy Booklet for key crops has been produced within the project. Much of this work was aided by the projects' Industry Liaison Group, which met regularly in Brussels and proved an invaluable resource in all areas. Details of these deliverables are given below.

One further aspect has been the development, through the INFORRM workstream, of Case Studies which explain both successful and unsuccessful opportunities of developing biorenewable products from land-based industry. These Case Studies are available via the IENICA website.

The IENICA project has created a huge amount of interest and currently 29 countries throughout Europe and North America have bid to the EC for further funding to help the development of this key area of sustainability. This new bid includes areas on education, integration of R&D, exploitation of biotechnology and continued development of market information; all were identified as key needs by industry. Further, several countries in South-East Asia, Africa and even Australia have asked that similar networks be developed in their regions. Hence at this stage in the closing weeks of the second IENICA project, we are optimistic that the significance of the work of the IENICA network has been recognised and will continue in the future.

My staff and I are truly grateful for the collaboration and camaraderie that has developed throughout the world because of the IENICA network and without our partners, both formal and informal, these successes would never have been achieved.

*Melvyn Askew - INFORRM-IENICA Co-ordinator*

**IENICA is a workstream in the INFORRM-IENICA project**

"For a long time now, non-food crops, and non-food uses for traditional crops, have been talked about, and pursued and developed by a few enthusiasts, but have never developed the momentum which many thought and hoped that they would. Now, however, with the growth in interest in sustainability, recycling and moving towards more use of natural, rather than non-renewable products, and the advent of the Single Farm Payment, when producers can react to market demands rather than politically derived signals, I believe that the time has arrived for this sector of the market to develop on the foundations laid by those enthusiasts.

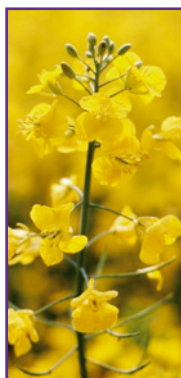
Critical to this development is a linkage between the market and producers; if we are to produce what the market demands, we have to know what it needs. This is where an international network of contacts between supplier and buyer, researcher and developer, processor and final user, potential grower and technical know-how, is essential.

There is an opportunity, in this developing market, to develop a short, efficient, supply chain, and to transmit marketing, research and technical messages quickly and efficiently through a central "clearing house". That network is currently IENICA; an invaluable hub for collecting and disseminating information on international developments in the growing non-food market place. It is more important than ever that the non-food sector grows as effectively and efficiently as possible, and an industry-wide facility such as IENICA is a vital tool in that development."

**Tony Pexton - Farmer, Nuffield Scholar, Former Vice-President of NFU**

"It is with great regret that we notice that we are now reading the final issue of the [current series of] IENICA Newsletters. IENICA has been very important to us as a source of information and reports on new developments. Even more important were the many new contacts that we have made through IENICA. In a promising emerging market as we think that renewables are going through at the moment these contacts have been very valuable. We were very pleased to have been a partner in the INFORRM-IENICA project. We sincerely hope that there will be a follow-up on the IENICA Newsletter and other activities."

**Dutch Platform for Renewable Resources**



"In my opinion the IENICA project has been decisive in bringing together experts and professionals and business in non food activities. It is a cornerstone for the greater Europe in finding ways to implement sustainable industrial activities around renewable resources. The IENICA newsletter disseminates all this information at no cost at all (imagine such a treasure for free)."

**Anthony Capelle**  
Former R&D Director, Cebeco

## Market Reports National and European

Building upon the achievements of the original IENICA, the ten new partners in the project have published their national status reports for non-food crops and products in their country. These comprehensive studies look at the fibres, oils, carbohydrates and speciality sectors, and identify opportunities and constraints/barriers to development in terms of science and technology, industry, markets and the environment. In addition, the original project partners have updated their national status reports, produced in 1999, to cover changes/developments over the last 5 years.

Together, these reports give a full, in depth analysis of the non-food crop and product sector in the new, enlarged Europe, and they have been consolidated in this way into the IENICA European Summary report. This covers the same sectors as on a national basis - fibres, oils, carbohydrates and speciality - and considers Science and Technology, Markets and Barriers to Progress. This extensive report illustrates how the sectors have changed over the last 5 years - since the previous summary report - and discusses future potential.

All reports, including those from the original project, are available on the IENICA website.



## Agronomy Guide

Published in August 2004, the IENICA Agronomy Guide was produced to provide farmers, farm advisors/consultants and agronomists with guidelines for growing selected industrial crops. The Guide can be used to help determine whether or not a particular industrial crop would be suited to a farmer's land, rotation and business.

Due to the large geographical area covered by IENICA (with countries as far North as Sweden and Finland and as far South as Greece and Cyprus), detailed agronomic specifications were considered to be inappropriate for this purpose. The work therefore concentrated on the generic guidelines for cultivation, and requirements of, each crop - looking at sowing, cultivars, nutrition, pests and diseases, harvesting and end uses.

Eight crops were chosen for inclusion, upon the advice of the Industry Liaison Group. All selected crops have current or potential commercial, industrial applications and none are currently grown on a major scale. The crops covered are Ethiopian Mustard, Hemp, Pot Marigold, Gold of Pleasure, Crambe, Linseed, Fibre Flax and Stinging Nettle. In addition, the Guide begins with some generic markets and issues in the non-food sector, with a view to putting their potential impact in perspective: set-aside; essential oils; environment; starch. The Agronomy Guide can be downloaded from the IENICA website.

**Visit the IENICA website at: [www.ienica.net](http://www.ienica.net)**

## Market Specifications

Three 'Market Data Sheets' have been produced by IENICA, in response to comments from industry about the lack of raw material specifications for non-food crop feedstocks. The booklets are the first to try to overcome this bottleneck and characterize the specifications that an agricultural feedstock must achieve to be acceptable in the non-food products sector. The three areas chosen are outlined below and all can be downloaded from the IENICA website.

**Bast Fibres:** This 'Fibre Facts' booklet provides a framework for buyers and sellers of flax and hemp fibres within the EU. It outlines the main areas which need to be considered by the supply chain, recognizing that each process and application has its own unique set of criteria, accepted methods of measurement and different priorities.

**Biolubricants:** Provides an overview of the EU biolubricants market, identifying technical benefits and limitations and considers national and European regulations and standards, with a particular focus on the European Eco-label for biolubricants.

**Essential Oils:** Covers 13 essential oil plants (accompanied by a smaller summary) giving a comprehensive review of the sector, comprising data regarding crop, vegetable raw material and component specification, market and market potential, plus a list of vegetable material and essential oil producers.



## Newsletters

The IENICA newsletter has continued from the original project as a quarterly publication, distributed hard copy to a worldwide mailing list and freely available to download from the IENICA website.

The first edition of the new project was produced in May 2001 providing an overview of the aims, objectives and workstreams of 'IENICA-Millennium'. Subsequent editions have covered a wide range of topics, including: Experiences with Miscanthus in Ireland; Non-Food Applications of Crops in Poland; Towards Efficient Biomass Chains; Stinging Nettle for Fibre Production; The Baltic Sea Agro-Industrial Network; Jojoba Production in Israel; Grass Biorefining; European Hemp Production; Non-Food Applications of Starch; Plants for Pharmaceuticals; Surfactants - plus many more.

Our thanks go to all those IENICA partners, and others, who have contributed to the newsletter.



## IENICA Events

Over the course of the project, IENICA has organised and sponsored a number of large, pan-European conferences and smaller, regional seminars:

- GreenTech: April 2002, Amsterdam, the Netherlands
- BioPlastics Work!: February 2002, York, UK
- Non-Food Crops: From Agriculture to Industry - International South European Symposium: May 2003, Bologna, Italy
- NaroTech: September 2003, Erfurt, Germany

A vast range of issues have been covered and vital opportunities for discussion and collaboration provided, as well as the latest research, products and technology demonstrated. Topics have included: policy and regulations; biotechnology; agriculture and biocascading; new materials and technology; market and economy; quality and performance - customer requirements; bioplastics; natural fibres; dyes and colourants; industrial oils; green chemistry; material applications for starch, proteins and lipids; ecological building with renewable resources; cellulose and cellulose derivatives; adhesives.

Many of the presentations, abstracts, papers and posters from these events can be downloaded from the IENICA website. We are extremely grateful to Europoint b.V for their assistance in the organisation of some of these events.

*"IENICA gave Europoint the task to organise two conferences on their behalf, which we believe have been quite successful and for which we would like to thank IENICA. In 2001 we carried out the organisation of the Conference on Bioplastics in York, UK and in 2002 the Green-Tech conference at the Floriade in The Netherlands. These were only two examples of many other projects on how IENICA worked on the dissemination of issues with regard to renewable resources."*

*Europoint - Conference & Exhibition Organisers*

## IENICA Website

The new IENICA website has grown from and built upon the original project website and is now a vast resource for all those involved in the non-food crop sector. The EC requires all project work and deliverables to be made freely available for all on the project website. The agronomy guide, market data sheets, newsletters, national and summary reports and event proceedings are therefore all stored on the website. Navigate via the blue 'buttons' on the homepage to access the documents. The website is more than just a store for project reports, however. It is a deliverable in its own right and includes a lot of other data:

**Plant Database:** A searchable database of over 100 plants with current potential industrial applications. Each covers quality characteristics, production and yields, constraints on production, markets and market potential plus other information on research etc.

**Contacts Databases:** Relational databases of over 3000 contacts in 30 countries in the non-food crops sector, and organisations with R&D interest in non-food crops and products. Searchable by country, area of interest (carbohydrates, fibres, oils, proteins, speciality, energy), market sector (agriculture, commercial, industrial, R&D) and area of R&D.

**Useful Information:** Provides links to other online data sources and the websites of useful companies, as well as relevant conference proceedings, publications, studies and reports.

**Events Diary:** A diary of events throughout the world relevant to the non-food crops and products sector.



**Policy:** Links to press releases, reports and other policy documents relating to the non-food crops and products industry.

**Education:** A new section, linking to educational courses on biorenewables.

## Forthcoming Industrial Crops Events

5-7 June 2005

### **NAROSSA 2005 - 11th International Conference on Renewable Resources and Plant Biotechnology**

Poznan, Poland

Tel: 0049 391 8507 171

<http://www.narossa.de/>

1-2 September 2005

### **Naro.Tech 2005: Materials made from Renewable Resources**

Erfurt, Germany

Tel: 0049 (0)361/400-18 10

<http://www.narotech.de/>

17-21 September 2005

### **International Conference on Industrial Crops and Rural Development**

Murcia, Spain

Tel: 0034 968 366768

Email: [MJesus.Pascual@carm.es](mailto:MJesus.Pascual@carm.es)

3-4 November 2005

### **The Green Supply Chain '05**

York, UK

Tel: 0044 1904 435182

Email: [enquiries@nnfcc.co.uk](mailto:enquiries@nnfcc.co.uk)

For more details and events visit  
[www.ienica.net/eventsdiary.htm](http://www.ienica.net/eventsdiary.htm)

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