



# IENICA



## Interactive European Network for Industrial Crops and their Applications

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### IENICA Project - Update of Progress

IENICA is now well into its third year and I wanted to take this opportunity to update you on its progress, and to fill in those of you who are unfamiliar with the project and its work.

#### Background

An Interactive European Network for Industrial Crops and Applications, IENICA was originally funded for three years in 1997 by the European Commission under Framework Programme 4. It then received continuation funding under FP5, which has extended the project from 14 EU Member States to a network of 26 countries, including some Accessing and Associated States.

#### *IENICA Participating Countries:*

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Republic of Ireland, Israel, Italy, Lithuania, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Canada, USA, UK.

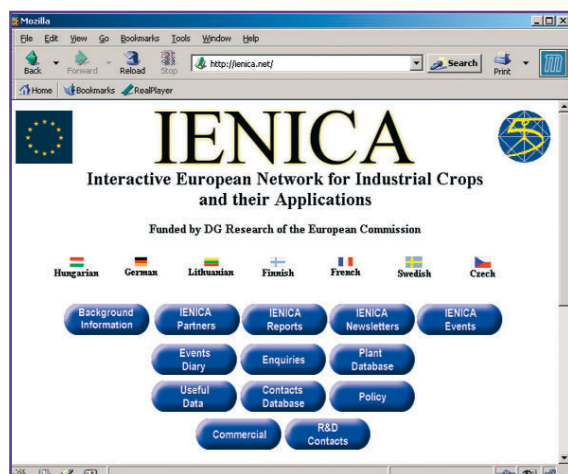
Each country has one participating organisation (and network member) in the project, all of which are experts in the field of industrial crops. The project website has a full list of all partners, their contact details and areas of expertise.



*Inaugural Ienica meeting (April 2001)*

IENICA links these, otherwise independent, organisations and initiatives which are involved in the development of renewable materials from crops throughout Europe. The overall aim of the project is to "Achieve enhanced technology transfer and market orientation in order to extend sustainable and economically

*viable non-food products from plants, through positive interaction and collaboration at all stages in the production-supply-processing-market chain".*



*The IENICA website*

### Project Website

All activities carried out by IENICA are made available on the project website, a key deliverable in itself, which also holds a wide range of other information on non-food crops. www.ienica.net has become a central resource for data on this subject and is constantly extended and updated. Project deliverables which can be accessed include:

- **National Reports:** produced for each country in the project, detailing the status of industrial crops in that country, in terms of cultivation and production, processing and use. A summary report for EU-15 is also available, sectioned according to market sector (fibres, oils, speciality products, carbohydrates, proteins). Coming Soon: national reports for the Accessing and Associated States, providing non-food crop data for the first time.
- **Newsletters:** all previous editions of the IENICA newsletter can be downloaded in PDF format. These include articles on the progress of the project and summaries of events held, plus a wide range of other relevant topics.

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

only concerning some single measures there is a need for action.

The contribution from Audi (Siegfried Schäper) discussed opportunities and problems of the EU End of Life Vehicle Directive and its German implementation. In his opinion the recycling quota of 85% should be eliminated and the possibilities to reach the 95% recovery quota should be more open to support the use of renewable resources within the automobile industry.



Georg H. Kuhlmann from the plant constructor Svoboda Umformtechnik gave a presentation of its newly developed pilot plant, which produces natural long fibre reinforced PP pellets. This standard plant with 12 modules for granulation has a capacity of approximately 700 kg/h. The plant is able to produce pellets from all kinds of fibres, including synthetic fibres.

### **Biodegradable materials**

The second section focussed on material applications of carbohydrates, lipids and proteins. Dr. Eric Bond from Procter & Gamble in the USA introduced its new material Nodax™. This is a new family of biodegradable aliphatic copolymers on the base of polyhydroxyalkanoate, which can be produced from renewable resources. The behaviour of Nodax™ is similar to polyethylene but its quality is surprising in comparison to other biodegradable polymers. It exhibits unexpected toughness and durability, a thermal property range similar to polyethylene, is aerobically and anaerobically biodegradable, has ambient hydrolytic stability, very good oxygen and odour barrier performance, excellent surface quality for printing and adhesion and versatile compatibility with other materials. Nodax™ can be readily converted to films, fibres, sheets, moulded products, nonwoven fabrics and foams.

The Saxon Textile Research Institute in Chemnitz presented its research into new biologically degradable spunbonded nonwoven materials from Polylactides. Biopolymers based on agricultural raw materials allow new solutions for innovative process engineering and product development within the textile industry. Conventional nonwoven materials, at

present based on polypropylene or polyester, cause problems of waste disposal because of their non-biodegradability. The results of the investigations confirmed that the production of biologically degradable spunbonded nonwovens from Polylactides by suction air processing is quite possible. However, differences do exist when compared to conventional nonwoven materials, particularly concerning the mechanical properties. The technology also needs to be modified when using biologically degradable polymers.

### **Ecological building with renewable resources and the market introduction of natural fibre insulation materials**

Building with ecological materials is, for many building owners, an interesting alternative to conventional materials, particularly when the costs do not differ too much. In this context the third section discussed ecological building and, primarily, insulation materials. In Germany the Ministry of Consumer Protection, Food and Agriculture supports the use of these natural materials and a market introduction programme was introduced by Nuse Lack of the FNR (which is responsible for the realisation of the program). Financial support of a maximum of 40 euros per m<sup>3</sup> (the supported products meet certain criteria) realises an extension of demand concerning natural insulation material and the objective of the program is to establish these insulation materials at the market.

Thomas Schmitz-Günther of natureplus e.V. introduced the first experiences with the natureplus quality-mark for building materials made from renewable resources. The certificate is strong proof that the products fulfil high quality standards in relation to environment, health and function, which is why the FNR programme supports all these products.

This section had a wide scope. Also discussed were the results of analysis of the hygrothermal properties of ecological insulation materials, which show that these materials have a higher moisture sorption and higher specific heat capacity than conventional materials and, in conjunction with the generally higher bulk density, the latter results in somewhat better thermal protection in summer.

The S-House project was discussed by the GrAT Group of the University of Vienna, which is a demonstration building made of renewable resources. The construction is planned according to the criteria of sustainable building and the 'Factor 10' concept is introduced, where the use of straw bale construction achieves better results in any category compared with conventional wall construction up to a factor of 10. It is constructed for the public and people can inform themselves about ecological materials for building