IENICA

SUMMARY REPORT FOR EUROPEAN UNION

INTRODUCTION

PREFACE/FORWARD

Preface to the IENICA report

European Union interest in the non-food industrial uses of agricultural raw materials goes back almost 15 years. It stems originally from a desire in the Community to find alternative uses for intervention stocks being produced in Europe as a result of the hyper efficiency of the Common Agricultural Policy (CAP) of that period. Subsequent political developments in the early nineties such as the reform of the CAP and the Uruguay Round led to production controls and further drove non-food interest through the resulting availability of set-aside land and limited subsidies for some industrial crops. Parallel to this were global commitments to clean–up and control the environmental damage caused by our increasingly populated and industrialised planet where industrial crops were deemed as having important sustainable and environmentally benign qualities. Furthermore, from a research point of view rapid technological developments in the past twenty years increased profoundly our understanding of the plant and microbial kingdom and how these vast natural resources could be adapted for the benefit of mankind.

In the background, the EU research programmes also contributed significantly by funding a large amount of cross-community research and development in this sector. It was during the Fourth Framework FAIR programme in 1996 that the IENICA project was submitted and selected for funding. Its objective of collecting and collating true data on the different activities in the non-food sectors of the individual member states was a welcome and timely attempt to establish the true Community potential and interest of these crops and their industrial products. A large network was set-up where National contact points prepared the individual state reports, the analysis of which is presented in the summary report. The network also organised three important workshops, distributed 11 newsletters, and set-up the first ever industrial crop internet-based database which was widely accessed and praised for its level of innovation.

Thanks to IENICA the 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.

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1.0 THE INTERACTIVE EUROPEAN NETWORK FOR INDUSTRIAL CROPS AND THEIR APPLICATIONS THE IENICA PROJECT

The IENICA project has 3 principal and 3 supporting objectives:

The principal objective are to:

- Create synergy within the EU industrial crops industry by developing an integrated network linking key individuals from industry, government and science in member states;

- use this network to identify and create scientific, industrial and market opportunities for specific crops or applications;

- identify the strengths of each EU member state in order to maximise the efficiency of RTD funding for industrial crops and encourage industrial and scientific collaboration between member states.

In support of these primary objectives IENICA also has secondary objectives:

- determination of the current state of scientific, industrial and commercial knowledge of industrial copes or their applications at member state and later at EU level (that is reported here);

- identification of barriers to the progress of industrial crops - these could be scientific, technical, legislative or economic;

- identification and evaluation of the environmental benefits arising from industrial crops or their applications;

IENICA has created and maintains close links between the agricultural sector, research scientists, processing industries and end-users of industrial crops. It provides a platform for debate and discussion between these groups thereby encouraging greater collaboration and co-operation, and best use of resources overall.

By integrating RTD work with the needs of industry and consumers, IENICA is identifying new markets for industrial crops and applications, and enables targeted research funding to bring potential markets to realisation.

It is recognised that many industrial crops bring environmental benefits over tradition sources of industrial products. IENICA has attempted to identify and characterise these environmental benefits of industrial crops and applications in order to stimulate development of new markets and support policy decisions.

The work content of the IENICA project has three primary component parts (called activity streams) which run as parallel but cross-linked themes and which, with information and discussion at the national level, building up within the lifetime of the project into an integrated EU-wide approach. IENICA has become the gateway and 'on-stop-shop' for non-food crops and products in Europe. This project and issues

developing from it will be easily adapted for future development of EU-15 and a wider EU in the new Millennium.

2.0 THE STRUCTURE OF THIS REPORT

The geographic spread of the 14 countries involved in the original IENICA project means that the potential to grow a particular non-food crop species is varied. Moreover, because of climate variation, with special constraints on Scandinavian and Mediterranean countries, there are some generic constraints which have been reported separately for Scandinavia by Mr Finn Rexen and the Mediterranean by Professor Gianpietro Venturi.

This data is available on the IENICA web site.

The main body of this summary report is based upon individual reports from the 14 member state in the IENICA project. These reports, unedited except for major typographical errors, are annexed to this summary. Whilst there is considerable variation amongst them, each was prepared in response to a commissioning document prepared by the overall co-ordinator of the project, Mr Melvyn F Askew. This commissioning document asked authors to prepare their contributions on the basis of opportunities and constraints for non-foot crops in their respective countries and to analyse their responses into major product groups, oils, fibres, carbohydrates and protein crops with special uses. Additional data has been added by the author; from a number of sources including the IENICA Material Fibres Performance Forum held in Copenhagen, Denmark during 1999; IENICA speciality products conference, Valbonne, France and IENICA oils conference held during 1999 in Wageningen, The Netherlands.

Additionally, authors were requested to provide statistical data on crops, cropping and products and to project forward over given time-scales how these might change. It is important to note that statistical data on non-food crops and their products is very poorly recorded in most countries and that overarching data for EU-15 is therefore particularly difficult to assemble in any precise way. Moreover, where crops or products are filling specialist niches in the market place, there is an understandable reluctance by commerce to release statistics which could be of value to competitors in EU or elsewhere. A further challenge is provided where new crops or new products from existing crops are being developed. Frequently, their early use is at such a low level as to be below the threshold for collection of agricultural data in EU states or European Commission. Nonetheless, the data provided here in this IENICA report is the first ever collated EU overview in this field.

It should be noted that this report does not refer to uses of crop or crop products in the fuel or energy sectors, since these issues are already embraced by other European Commission-funded projects and some individual state initiatives. Similarly, it does not refer to tobacco for human consumption.

In addition, to data abstracted from individual state reports and specific IENICA driven events, the Co-ordinator of the IENICA project has added data from other sources, where appropriate.

3.0 OPPORTUNITIES FOR NON-FOOD CROP PRODUCTS AND NON-FOOD CROPS

3.1 Introduction

It is important to recognise that non-food crop products can be sourced from a very wide range of crops; over 100 have been identified in the IENICA website alone (http://www.csl.gov.uk/ienica). Sometimes such products come from newly introduced crops as is the case with *Calendula officinalis* (Pot Marigold), which is being introduced as a specialist oil crop, the lead being taken by the Netherlands, or *Cannabis sativa* (Hemp), where a range of fibre, pith and oilseed products are in preparation in a number of states. Alternatively, new products are being investigated or developed from existing food crops or their by-products. Examples include plant protection products from rapeseed meal and cereal starches as lubricating powders in personal care products.

3.2 Impact of International Agreements

Currently, a number of trade or other restricting arrangements impact upon the full exploitation of bio-renewable crop products.

Perhaps the most obvious, because of the interest in development of oleaginous crops, has been that of the EC/US Oilseeds Agreement, commonly called 'Blair House Agreement'. This currently limits expansion of oilseeds in both the food and non-food sectors in EU.

Discussions under WTO roles will have to address this issue. Equally, WTO discussions will impact upon the way aid is paid to agriculture and the rural economy within EU and that in turn could lead to removal of price distortions between food and non-food produce. This development would considerably aid developments in the non-food sector for oilseeds and cereals.

Current discussions on revision of EC Regulation 2704/1999 are considered by industry at large to be bureaucratic and unhelpful.

3.3 Impact of EC Policy and Common Agricultural Policy

A number of changes have occurred in CAP during the last 7 years and further changes seem likely by the year 2003. Clearly, the emphasis is moving away from purely production-orientated aids to those with environmental; rural economy and socially linked benefits.

Whilst there has been no specific EC policy to aid or extend the development of all plant-derived non-food products, some non-food crop species do benefit from aid (eg hemp and flax under [Reg 1308/70]; linseed under [Reg 569/76, 1774/76 and 1774/76]; high erucic acid rapeseed under [Reg 1204/72]. EC-funded regimes exist in several EU member states for starch potatoes [Reg 1868/94].

Controls on production of cereals, oilseeds (oilseed rape, sunflower and soya bean) and pulses (peas, beans), have been exercised through set-aside regulations (Reg EC

2461/99). A large number of crop plants can be grown on set-aside land (see annex II) and receive set-aside aid. Clearly, this arrangement has provided an opportunity for development of non-food crops, although the fact that set-aside area has varied considerably on a year to year basis has made production unstable. Additionally, for true sustainability, non-food crops or products must be viable in their own right.

3.4 Agenda 2000

Under the changes to the CAP agreed proposed in Agenda 2000 and agreed in the Berlin Compromise, support prices will be reduced and direct payments to farmers increased to help compensate for the price cuts. There will be a new rural development policy. In principle this could provide the basis for a shift of emphasis from production support towards environmental and rural development measures in the future. However, only very limited additional funds are to be made available for these purposes.

In the arable sector, the area payment for all crops will rise in two stages to 63 euro/t in 2001 converted to an area payment at the cereals reference rate and may increase further in 2002 if the Council of Ministers decide to make a further cut in the intervention price for cereals in that year. There are exceptions, which include oilseeds and linseed. For oilseeds, payments will fall to the standard rate, which applies from 2002 onwards with interim rates of 81.74 euro/t in 2000 and 72.37 euro/t in 2001. Maximum Guaranteed Area penalties may apply in 2000 and 2001 but in the event of this happening payment cannot be less than the 63 euro/t in 2001, falling to the standard rate from 2002 onwards.

Compulsory set-aside will be retained and the default rate for 2000-2006 is fixed at 10%. The European Commission and Council of Ministers will still be able to set a different rate each year if they agree to do so. Voluntary set-aside arrangements land will continue. Set-aside payments may be granted on a multi-annual basis for a period of up to five years. At the time of writing, it was anticipated that the present provision allowing farmers to put all of their land into set-aside if it is used for biomass production will be maintained.

The new rural development regulation recognises that rural development and environment should be supported as an integral part of the reformed Common Agricultural Policy (CAP). The development of non-food crops is included within the scope of the regulation as are other measures relating to the conversion and diversification of farming activities. The regulation specifically provides for a planting grant for crops such as short-rotation coppice, and may provide a basis for assisting *Miscanthus*, subject to including this in the UK's rural development plan and securing funding.