

# The Potential for Non Food Products from Plants: An Overview

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Non food products from plants are not new

*But* /

They are being rediscovered.

Technological advances are helping



To remain in use in the  
21<sup>st</sup> century feedstocks & products  
must be sustainable



# Sustainability has 3 components

- Economic Viability
- Environmental Acceptability
- Cultural/Social Acceptance



The IENICA projects funded by DG Research of EC

IENICA – 14 Partners

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[www.ienica.net](http://www.ienica.net)



# Market sectors for biorenewables: IENICA

Oils

Fibres

Carbohydrates

Speciality Products



# OILS

- Overall usage of vegetable oils and animal fats in the non-food sector of EU-15 is approximately 3 million tonnes per annum.
- Bio-lubricants – the potential EU market is approximately 370,000 tonnes/annum.
- Bio-printing inks - the EU market is in excess of 120,000 tonnes/annum.
- Bio-solvents – the EU solvent market is approximately 4 million tonnes
- Linoleum - the EC demand for linoleum is likely to rise to 56 million m<sup>2</sup> by 2003.





# FIBRES

- Clothing - no significant opportunities
- Cars/aircraft - about 350,000 tpa fibre
- Low value uses e.g. geotextiles?



# CARBOHYDRATES

- Starch markets in EU and elsewhere are well developed and organised.
- 3.7 million tonnes is in the non-food sector, 1.4 million tonnes in paper and cardboard making, 1.1 million tonnes in plastics and detergents and 1.2 million tonnes in fermentation and other technical uses.



# SPECIALITY PRODUCTS

Market segments include:

- Essential oils
- Pharmaceuticals
- Popular health products
- Colourants and dyes
- Perfumes
- Personal care/beauty products
- Novel plant protection products
- Intermediates for processing



# WOOD

Scandinavia has major strengths in wood and pulp products

BUT prices can be volatile and some markets have been depressed in 2001/02



Trees offer a very wide range of metabolites.

Markets for some are already proven but many are unexplored.

Potential of these metabolites should be investigated: they may add value!



## Uptake of biorenewables is slow.

- Germany is most advanced in non energy
- Scandinavia is most advanced in fuel
- Lack of awareness of potential
- Fear of risk
- Fragmented supply chain



## Biorenewables can offer environmental benefits

- Reductions in V.o.C's
- GHG savings > 5 million t.p.a
- Energy



## EU policy drivers for biorenewable energy

- Energy for the future –  
renewable resources for energy
- Strategy for security of energy supply





The land mass of Eastern European States  
is enormous!

Hungary 4.5 million ha arable

Poland 14.1 million ha arable

Romania 9.1 million ha arable



# In Summary

- Markets for sustainable biorenewables are very large
- EU market structure for biorenewables is poorly developed
- Large Eastern European States accessing EU will create considerable competition in feedstock production
- The Baltic States should focus on those market sectors where they have a skills advantage, a geographical advantage or a policy need
- The true potential of 'traditional' crops like trees and cereals should be revisited



