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NEW PRODUCTS: NEW USES

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Drivers for non food crops include:-

- * sustainability of agriculture, the rural economy and industry at large
- * environmental protection
- * legislation and cost of non-compliance
- * public opinion
- * international agreements of various types but with the common resolution of demanding renewable sustainable feedstocks eg Kyoto; WTO discussions.



The development of non-food crops in recent decades was caused by the Common Agricultural Policy of EU and was essentially an alternative land use for cereals, especially wheat, and oilseeds, primary oilseed rape and sunflower.



Projected EU Cereal Intervention Stocks under Agenda 2000 (million tonnes)

	97/ 98	98/ 99	99/ 00	00/ 01	01/ 02	02/ 03	03/ 04	04/ 05	05/ 06	06/ 07
Wheat	3	7	12	16	20	25	31	40	50	60
Course Grains	11	13	26	15	11	8	6	6	7	9
Total	14	20	38	31	30	37	38	46	57	70

Source: Timms (1999)



Market opportunities

Sector segments discussed are:

- Oils
- Fibres
- Carbohydrates
- Speciality Products
- Proteins



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 m² by 2003.



Fibres:

- clothing - no significant opportunities
- cars/aircraft - about 350,000 tpa fibre
- low value uses eg 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



Some speciality products markets

- * Essential oils markets worldwide are approximately 45,000 tonnes/annum.
- * Aromatic plants have a world market > 50,000 tonnes/annum.
- * Estimates of medicinal plant markets suggest 70,000 tonnes/annum.
- * European collection of aromatic and medicinal plants amounts to 20-30,000 tonnes/annum.
- * The European herbal supplements market is valued in excess of €7 billion/annum.



Renewable Energy in EU : 2010

Type of Energy		Share in the EU in 1995	Projected Share by 2010
1	Wind	2.5 GW	40 GW
2	Hydro	92 GW	105 GW
2.1	Large	(82.5 GW)	(91 GW)
2.2	Small	(9.5 GW)	(14 GW)
3	Photovoltaics	0.03 GWp	3 GWp
4	Biomass	44.8 Mtoe	135 Mtoe
5	Geothermal		
5a	Electric	0.5 GW	1 GW
5b	Heat (incl. heat pumps)	1.3 GWTH	5 gwTH
6	Solar Thermal		
	Collectors	6,5 Million m ²	100 Million m ²
7	Passive Solar		35 Mtoe
8	Other		1 GW



“Proposal” for measures to promote biofuels

EC - Strategy for Security of Energy
Supply

- 20% substitution of
road fuels by 2020



Conclusions : 1

Without doubt scientific and technological developments have developed so as to permit the exploitation of biorenewable products.

Some key areas are still incomplete:

- * political and administrative co-ordination of effort
- * awareness of opportunities in all sectors of industry
- * assessment of environmental benefits
- * focussed technology transfer



Conclusions : 2

UK can exploit significant new markets if it

- links producers and end users
- focuses on technical specification



