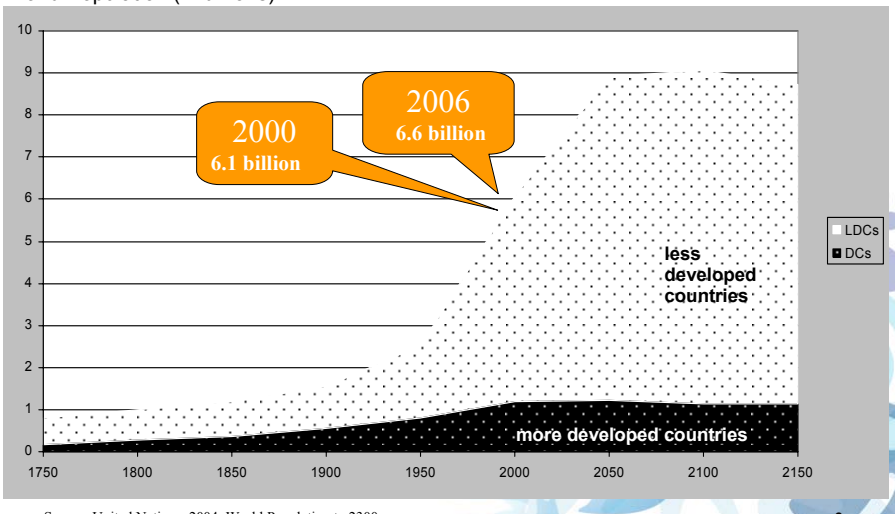
Biodiversity and rural development in a changing global agricultural commodity market

Brussels April 19th, 2007

Guenther Buck – SVP Oils & Fats Unilever Raw Materials

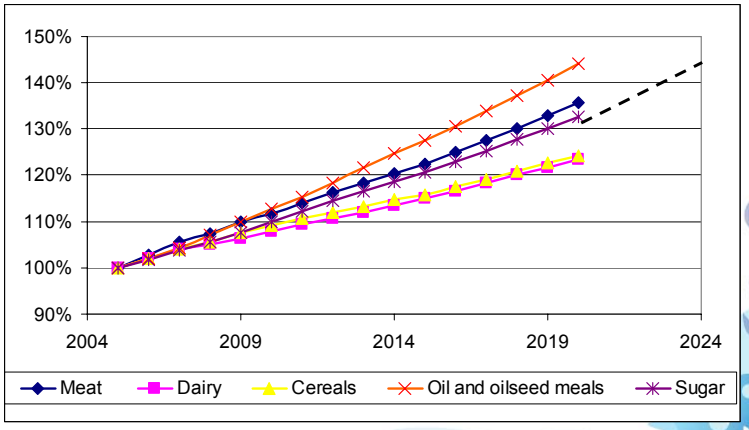
A growing world population will lead to a growing demand for food

World Population (in billions)



Source: United Nations, 2004: World Population to 2300

Forecasts for food consumption growth – primarily in China, India and other D&E countries (OECD-FAO, 2006)



- **In 20 years an extra 50% food production is needed !**
- **Without agricultural intensification** this will require an **additional 2.5 billion ha of land** (e.g. 2/3 of the current forest area!)

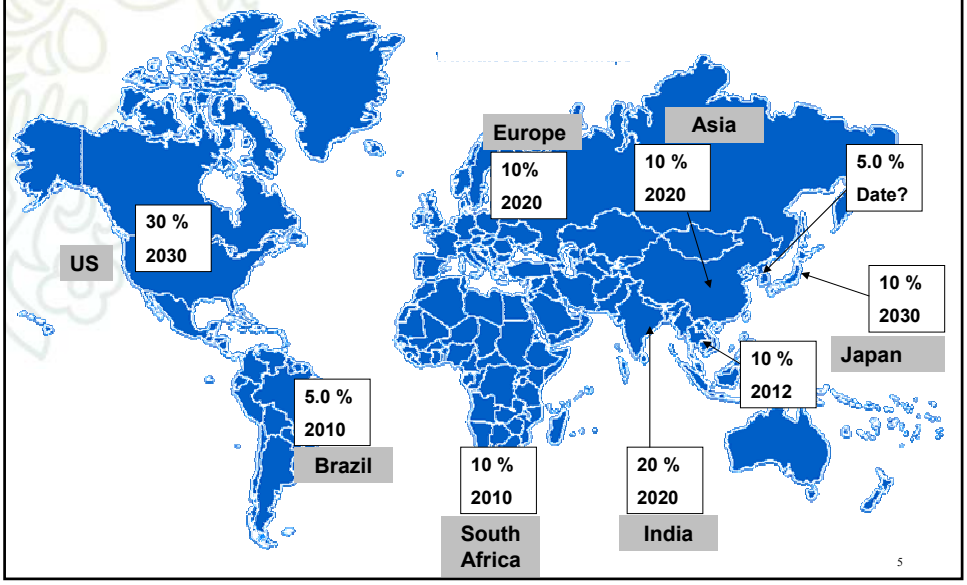
Biofuels – The new demand factor

- Drivers:

1. Security of future energy supply
2. GHG – emissions reduction because of climate change
3. Rural development

- **Agenda : Politically Driven - Not a market initiative!**

Targets for Bio-Fuels over the world



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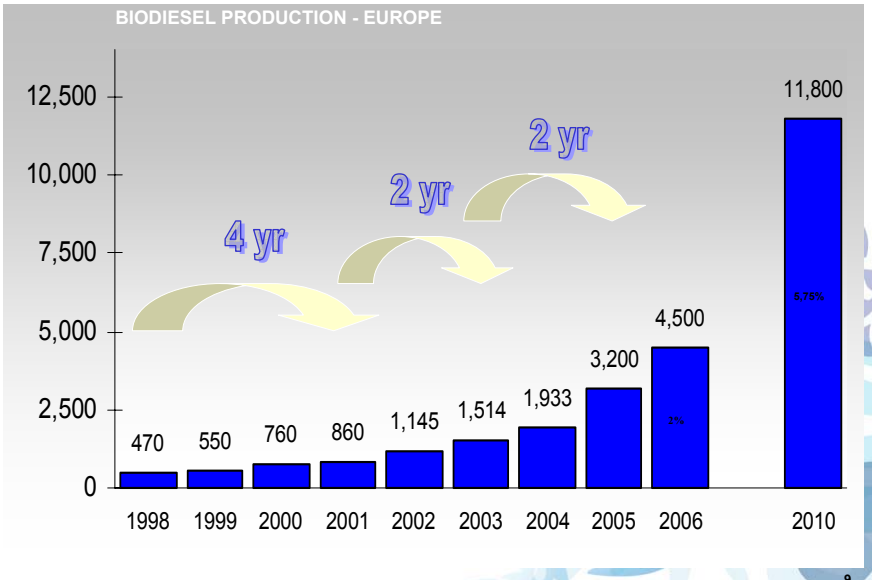
BIOFUEL MARKET DEVELOPMENTS



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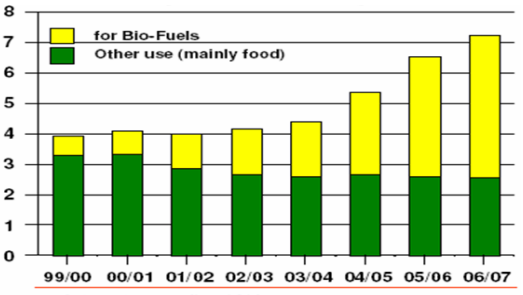
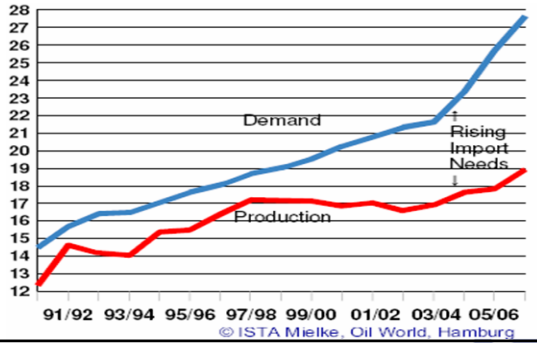
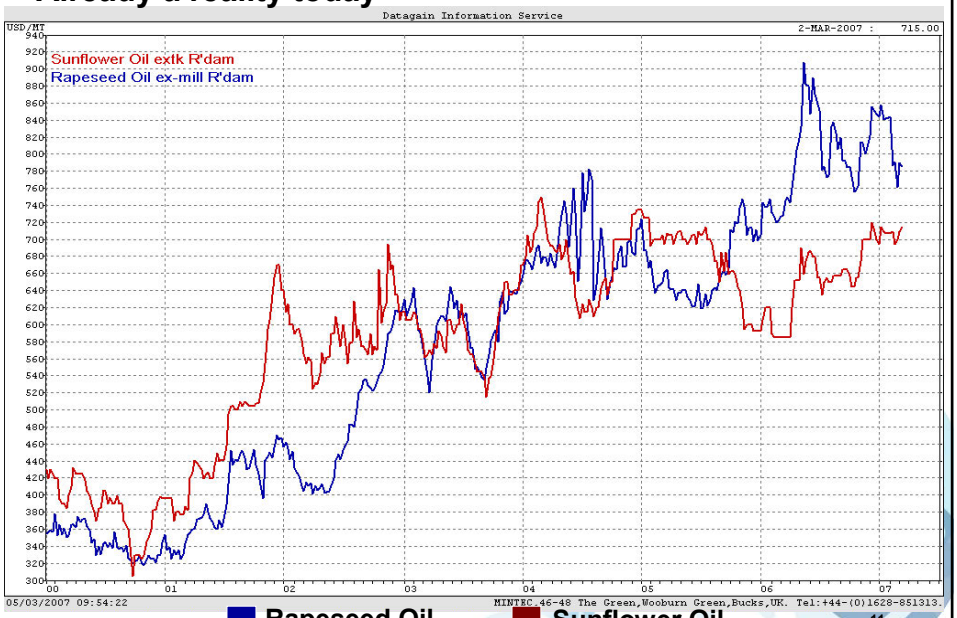
EU-25 : Rape Oil Consumption (Mn T)



EU-25 Demand & Production of 17 Oils & Fats (Mn T)

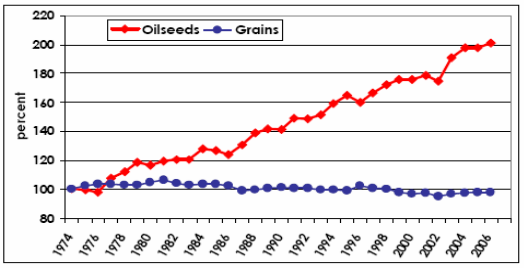


Prices for rape and sunflower on record heights : Already a reality today



Rapeseed Oil Sunflower Oil

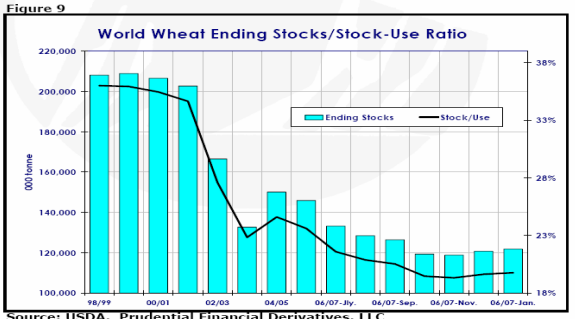
OILSEED HAS BEEN GROWING AT THE EXPENSE OF GRAIN AREAS



SHRINKING WORLD WHEAT STOCKS ALREADY A REALITY TODAY

Source: USDA

Figure 9



Source: USDA, Prudential Financial Derivatives, LLC

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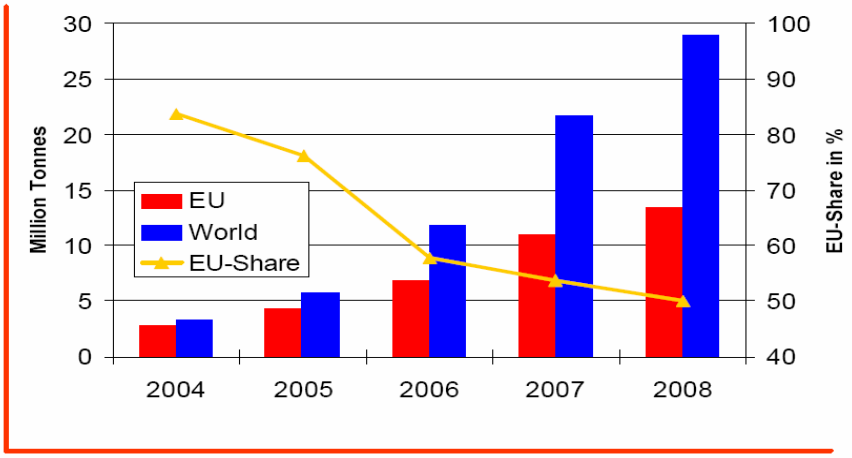
THE UPCOMING DEMAND WAVE FOR VEGETABLE OILS

ISTA Mielke GmbH OIL WORLD since 1956

Booming Global Biodiesel Capacities (Mn T)



Internet: www.oilworld.biz 12 March 2007 © ISTA Mielke, Oil World, Hamburg

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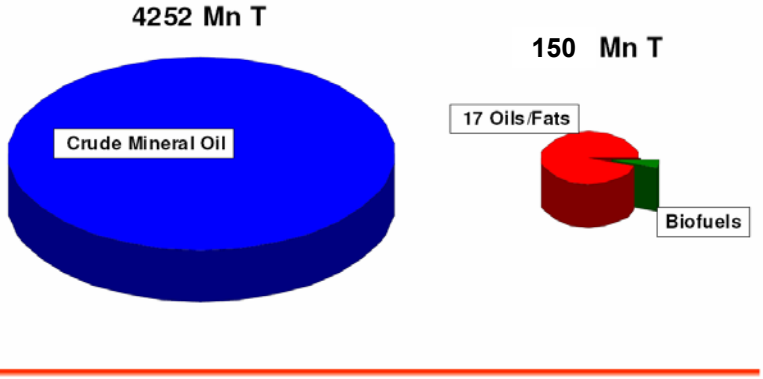
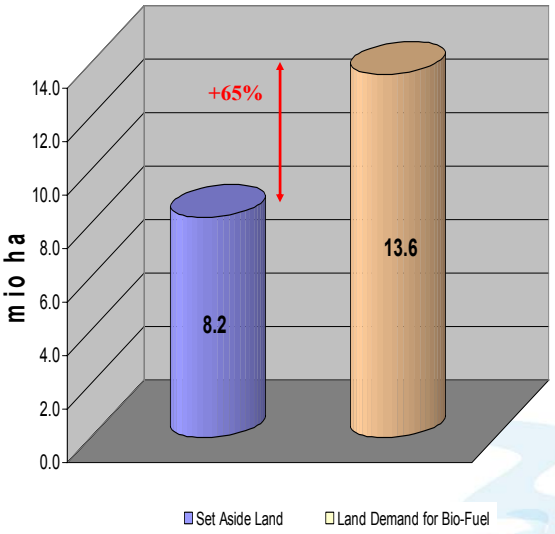
World Use of Crude Mineral Oil vs. Veg Oils/ Animal Fats in 2005/06 in Mn T



Internet: www.oilworld.biz

IMPACTS OF BIOFUELS IN EU

COMPETITION FOR LAND - QUESTIONING SUSTAINABILITY



INSUFFICIENT "SET ASIDE LAND" TO COVER BIO-FUEL DEMAND IN 2010 -Based on a 5,75% target

LAND USAGE calculation to achieve 5,75% target (mio ha):

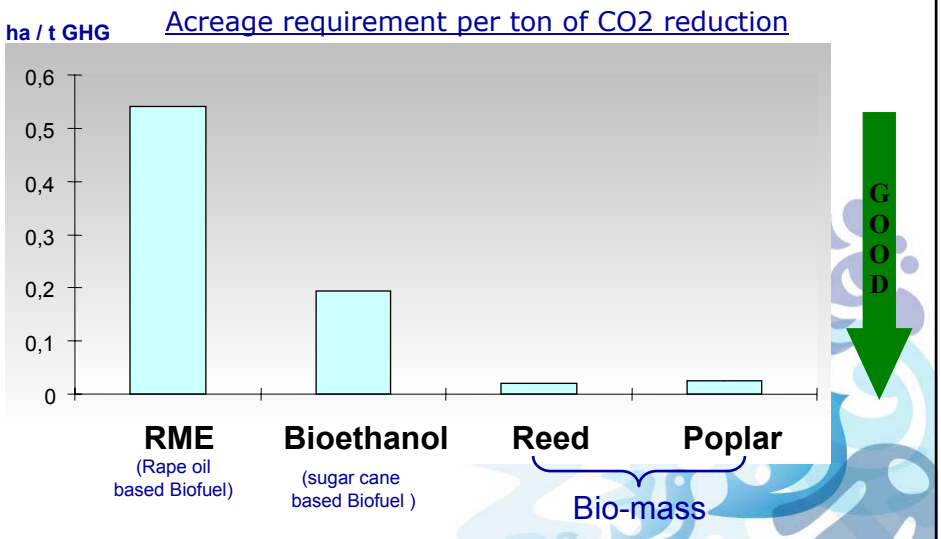
4,6	New Demand Bio-ethanol
9,0	New Demand Bio-Diesel
13,6	2010 New Requirements

RWI Study

Agricultural intensification – The debate

- Intensification requires irrigation and fertilizers
- Intensification of agriculture can lead to severe environmental problems like:
  - Water scarcity and pollution
  - Erosion
  - Loss of landscapes
  - Excess use of fertilizers – Ozone depletion – Nitrogen from fertilizers
  - Biodiversity reduction (loss of flora and fauna)
- **Most of the current biofuel policies do not address this intensification issue adequately**
- **The energy policies currently do not reflect in full sustainable agriculture, environmental and bio-diversity impacts as well as food security**
- **Global Pressure to move towards more GMO crops**

Bandwidth in efficiency of land usage



Source: Calculations based on Schmitz 2005, Kaltschmitt 2002, IEA 2004

Conclusion

Mandatory targets for Biofuels:

- Land availability for both food + fuel is very questionable
- Unlikely to deliver a meaningful reduction in GHG-emissions
- Very low impact on overall energy security
- Puts energy on an economic collision course with food/feed destabilising critical markets
- Risking sustainable agriculture and environment

Proposals:

- Continuing emphasis on energy savings programmes
- Flexibility in EU policy, careful monitoring of impact on key markets
- Further research on sustainability, land and GHG balance
- Accelerate research into 2nd generation technologies
- Prioritise power, heating and cooling applications over transport