Food, Feed and Fuels
A Snapshot

FEDIOL

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In 2009 the European Union set a target for 10% renewable transport fuels by 2020 and a 6% reduction of (lifecycle) greenhouse gas emissions for all transport fuels also by 2020, as part of the **EU energy and climate objectives. Contribution of biofuels towards these targets is significant.**

Since then, however, **biofuels have raised criticisms from some stakeholders**. They claim, among other points, that as a result of indirect land-use change, biofuels displaced the use of food crops. Under the influence of these criticisms, the **European Commission has recently come up with new proposals that are intended to limit the use of conventional biofuels.**

Biofuels include bioethanol (made from cereals or sugar beets) and biodiesel (produced from vegetable oils). Biodiesel is the most common biofuel in Europe.

Food is the main use for vegetable oils

Beyond the food and feed sectors, vegetable oil is supplied to non-food markets, in particular biofuels, but also the chemical and cosmetic industries.

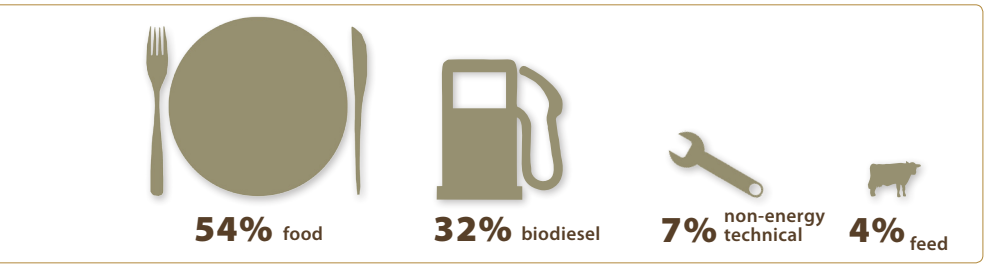


Figure I - Split use of vegetable oil in the EU (2011) Source: FEDIOL statistics

The great majority of EU biodiesel is produced from rapeseed

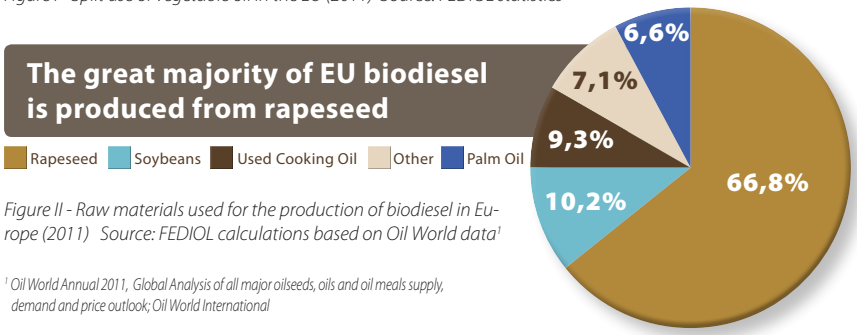


Figure II - Raw materials used for the production of biodiesel in Europe (2011) Source: FEDIOL calculations based on Oil World data[1]

[1] *Oil World Annual 2011, Global Analysis of all major oilseeds, oils and oil meals supply, demand and price outlook; Oil World International*

Increased rapeseed cultivation in the EU brings agronomic benefits

European rapeseed is **fundamental for crop-rotation** as it restores soil nutrient and nitrogen balance and is used as a **break-crop. Rapeseed is not a year-on-year permanent crop.** Rapeseed in a crop-rotation can increase the yields of the subsequent cereal crop harvest by up to 11%[2].

Current biofuel mandates can be met without impact on food availability

The **EU rapeseed oil consumption for food** has remained **stable** at around 2.8 million tonnes for over 10 years. Thanks to the increased agricultural raw materials production, the EU vegetable oil sector has never experienced any shortages due to extreme weather events such as droughts, frost or extreme humidity.

The EU vegetable oil sector continuously supplies the food market. The additional demand for vegetable oils from the biofuels sector has been met and current biofuel mandates can be supplied through increased agricultural production and productivity, and not to the detriment of food outlets.

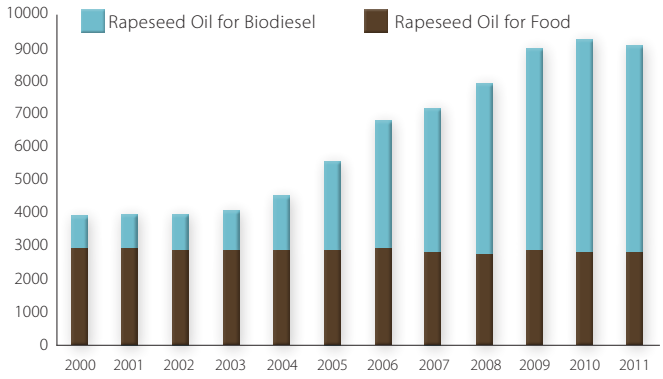
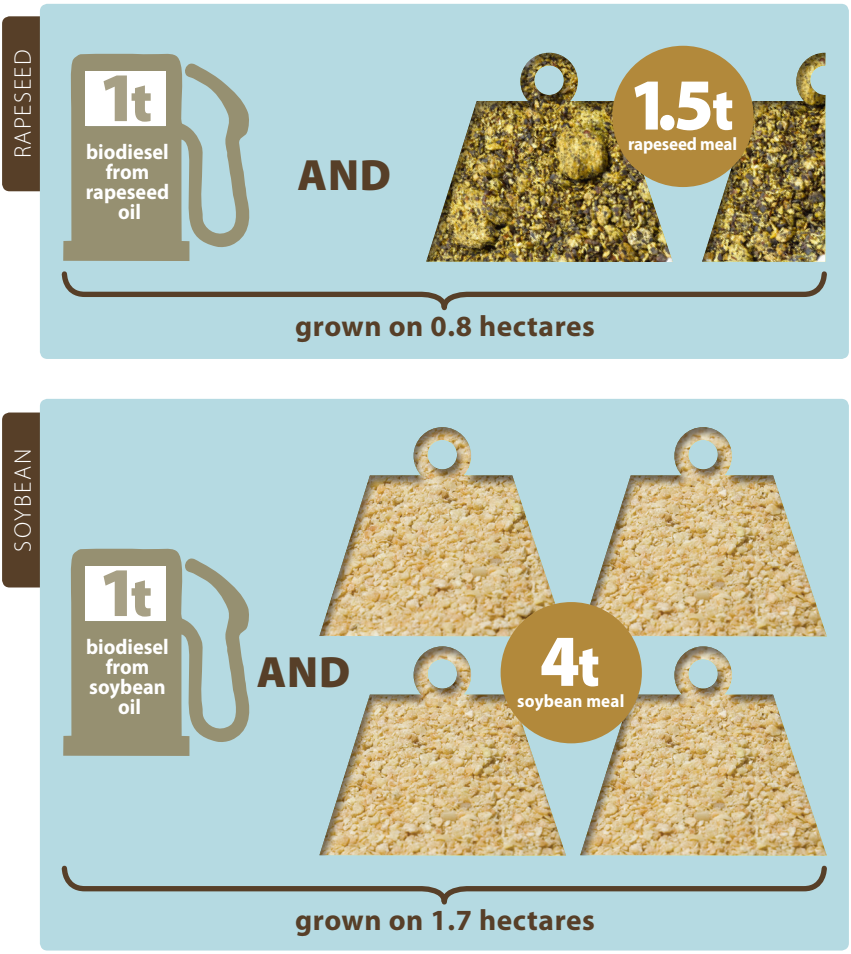


Figure III - Rapeseed oil supplied to food and biofuel markets (1000t)
Source: FEDIOL calculations based on Oil World[3] and FEDIOL data

[2] *"Yield, yield formation and yield stability of wheat, barley and rapeseed in different crop rotations", O. Christen, University of Halle-Wittenberg, 2011, p. 36, table 4.*
[3] *Oil World Annual 2012-2000, Global Analysis of all major oilseeds, oils and oil meals supply, demand and price outlook; Oil World International*

Biodiesel production increases the availability of vegetable protein and supplies the food chain

Biodiesel, produced from vegetable oils, triggers the production of considerable volumes of feed materials used as animal feed source.



EU biodiesel production led to the production of 13 million tonnes of proteinmeal, which corresponds to half of the EU protein meals produced.

Biodiesel production reduces EU protein deficiency

Europe has a **structural protein deficiency** and is dependent on imports of protein crops and meals from third countries: the European Parliament estimated that the **deficiency still amounts to 20 million tonnes**[4] and called for necessary **measures to be taken to increase protein production in Europe.**

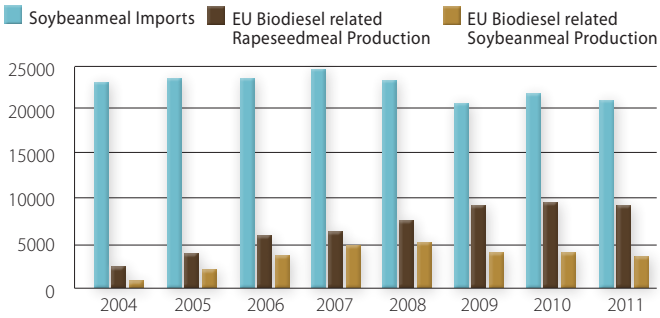


Figure IV - Soybeanmeal imports declining as a result of increased proteinmeal production within the EU (1000t) Source: FEDIOL calculations based on Oil World[5] and FEDIOL data

In the absence of a biofuels outlet for vegetable oil, this meal would not be produced in Europe and would have to be replaced by protein imports, such as soybean meal.

Europe supplies agricultural raw materials for various markets without jeopardising the availability of food

Since the EU biofuels mandates were set in place, investments into agriculture and rural infrastructure increased considerably. As a result, rapeseed productivity per hectare has increased by over 7%, in just 10 years[6].

[4] *EP Report on "The EU Protein Deficit : What Solution for a Long-Standing Problem", Committee on Agriculture and Rural Development http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2011-0026+0+DOC+PDF+V0//EN*

[5] *Oil World Annual 2012-2004, Global Analysis of all major oilseeds, oils and oil meals supply, demand and price outlook; Oil World International*

[6] *Oil World Annual 2012: Global Analysis of all major oilseeds, oils and oil meals supply, demand and price outlook; Oil World International 2012*

Increased palm oil imports are driven by other factors than biofuels

EU imports of palm oil increased in the past 10 years **essentially for demand from the food industry, because of palm oil's functional and textual properties and for uses other than biodiesel production.**

Examples:

- Palm oil imports have increased largely due to palm oil demand from the food industry
- National programmes supported palm oil use in combined heat and power (CHP) installations.

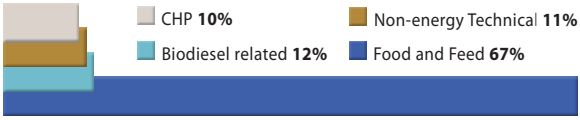


Figure V - 2011 EU27 Palm oil use Source: FEDIOL estimates based on FEDIOL data

The impact of biofuels on commodity prices is limited

Commodity prices

Stronger global food demand from emerging countries is affecting the global commodity prices in the long term.

The most significant causes for price spikes are identified as higher transportation costs (freight rates), increased farm input costs (fertilizers, etc.), taxes, increased price of energy, agricultural export restrictions in some countries, poor crops, tight supply and demand ratios and the high volatility of exchange rates[7].

[7] *"Why speculation is not a prime cause of high and volatile international agricultural commodity prices: An economic analysis of the 2007-2008 price spike", Harald von Witzke and Steffen Noleppa (2011, p.17).*

Food price formation

Agricultural commodities generally make up a small proportion of the overall production costs of processed foods[8]. Other factors that influence the price of food are packaging, storage, transportation and marketing.

Biodiesel production within the EU has a low impact on the overall price of food.

The phasing out of conventional biofuels will NOT lead to more available food nor necessarily provide cheaper food

If the EU were to phase out conventional biofuels, this would lead to a significant drop in the demand for vegetable oils, and in particular rapeseed oil. With no real export potential and no alternative market, manufacturers would not be able to process 20 million tonnes of oilseeds (over 1/3 of EU crushing capacity). As a result, European farmers are likely to reduce farm activity and rapeseed production by over 70%, the corresponding 5 million hectares of agricultural land risk being left idle.

Without biodiesel, more than 13 million tonnes of proteinmeal would be put at risk and the corresponding volumes of animal feed materials would need to be imported from third countries.

EU biofuels mandate enables the availability of larger crop volumes which in turn could offer a buffer function, making the agricultural raw materials concerned less vulnerable to price volatility.

[8] *Commission Communication on FOOD PRICES IN EUROPE (COM(2008) 821 final), p.3.*

FEDIOL is the federation representing the European Vegetable Oil and Proteinmeal Industry in Europe.

168 Avenue de Tervuren | 1150 Bruxelles
Tel: +32 (0)2 771 53 30 | Fax: +32 (0)2 771 38 17
fediol@fediol.eu | www.fediol.eu