



## Composition and quality of vegetable oils and fats

# Rapeseed oil



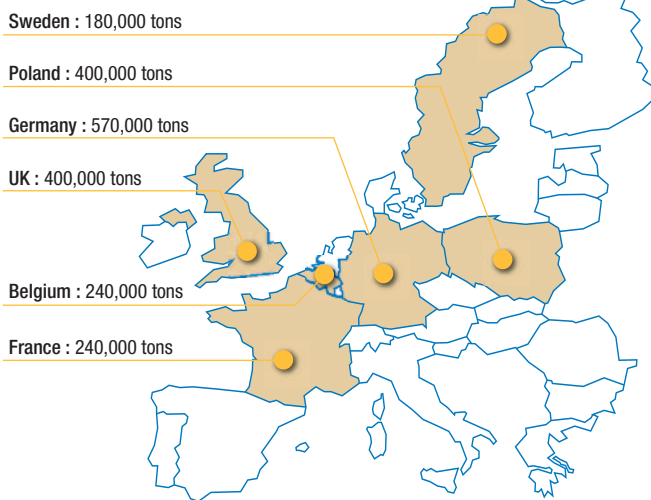
### Introduction

Rapeseed is a plant grown annually in temperate climates such as Europe, Canada and China.

In Europe, rapeseed oil for food is predominantly consumed in Germany, Poland and the UK, followed by France, Belgium and Sweden.

Rapeseed can yield up to 45% of rapeseed oil and is also an excellent source of protein for the animal feed industry.

Rapeseed oil consumption for food in the EU (tons/year)



(Source: FEDIOL statistics 2011, Oil World Database 2011)

### Nutritional composition

	100 g	1 tablespoon (10 g)	% GDA (10 g)
<b>Energy</b>	3700 kJ 900 kcal	370 kJ 90 kcal	4.5%
<b>Fats</b>	100 g	10 g	14%
Of which			
Saturated fatty acids	6 - 8 g	0.6 - 0.8 g	3.0 - 4.0%
Mono-unsaturated fatty acids	60 - 65 g	6.0 - 6.5 g	17.6 - 19.1%
Polyunsaturated fatty acids	28 - 34 g	2.8 - 3.4 g	11.3 - 21.3%
Of which			
Omega-6	21 g	2.1 g	15 %
Omega-3	7 - 11 g	0.7 - 1.1 g	31.8 - 50%
Cholesterol	0 mg	0 mg	/
<b>Vitamin E</b>	25 - 40 mg (208 - 333%*)	2.5 - 4.0 mg (21 - 33%*)	/

No protein, carbohydrate or salt.

Variability in the nutritional composition can occur due to geographical variability (soil, weather, varieties, etc.)

(\*): % of Recommended Daily Allowances, RDAs

Rapeseed oil is rich in mono-unsaturated fatty acids, in omega-3 fatty acids and is low in saturated fatty acids.



## Nutritional benefits

Rapeseed oil is interesting for its richness in omega-3 fatty acids, and for its low content in saturated fatty acids in comparison to other edible oils.

Rapeseed oil is also frequently used in blends of vegetable oils (sunflower, soybean, corn, etc.) to improve the fatty acid profile of the vegetable oils, mainly the omega-3 fatty acid content and to give a better omega-3 / omega-6 fatty acid balance.

An inappropriate balance contributes to the development of diseases, as it impacts the body's function (blood pressure, blood clotting, immune response, etc.)

## Nutritional and health claims

According to Regulation (EC) No 1924/2006, food products can bear only nutrition claims approved by the European Commission, based on the scientific assessment of the claim by the European Food Safety Authority (EFSA)<sup>1</sup>.

Due to its nutritional profile, rapeseed oil can bear the following nutrition claims:

### Nutrition Claims

High omega-3 fatty acids  
*(more than 0.6 g Alpha-linolenic acid per 100 g and 100 kcal)*

High monounsaturated fats  
*(more than 45% of the fatty acids are from monounsaturated fats, which represent more than 20% of the energy content)*

High unsaturated fats  
*(more than 70% of the fatty acids are from unsaturated fats, which represent more than 20% of the energy content)*

High vitamin E  
*(more than 30% of Recommended Daily Allowances (RDA) of vitamin E set at 12 mg/day)*

(1) [http://ec.europa.eu/food/food/labellingnutrition/index\\_en.htm](http://ec.europa.eu/food/food/labellingnutrition/index_en.htm)  
<http://www.efsa.europa.eu/en/topics/topic/nutrition.htm>

Vegetable oils and fats must be part of a normal balanced and healthy diet. They are rich in unsaturated fatty acids, are a source of essential fatty acids (from omega-3 and omega-6 families, which the body cannot produce), are high in vitamin E, and contain no dietary cholesterol.

In addition, EFSA has assessed positively the following health claims:

### Health claims – Positive EFSA opinion

Alpha-linolenic acid (omega-3 fatty acids) contributes to the maintenance of normal blood cholesterol concentrations.

Linoleic acid (omega-6 fatty acids) contributes to the maintenance of normal blood cholesterol concentrations.

Essential fatty acids (omega-3 and omega-6 fatty acids) are needed for the normal growth of children.

Vitamin E protects lipids, proteins and DNA against oxidative damages.

## Recommended uses

Rapeseed oil can be used for shallow, home or pan frying, cooking and dressing.

## New varieties

Research on new varieties of rapeseed is on-going to try to develop seeds and modify the fatty acid profile to improve functionalities of the oil.

Example: high oleic rapeseed has an increased monounsaturated fatty acid content, which gives a better heat stability during frying than that of standard rapeseed oil.

FEDIOL, the EU Vegetable Oil and Proteinmeal Industry, is the Federation representing the interests of the European oilseed crushers, vegetable oils producers/processors and protein meals producers. With more than 35 companies in 16 EU countries, FEDIOL members crush 36 million tonnes of oilseeds a year, and refine 17.5 million tonnes of oilseed/soybean oils and tropical oils, which amounts to 90% of the European food market for vegetable oils and fats (excluding olive oil). There are more than 150 vegetable oils and fats production facilities across Europe, employing approximately 20 000 people.