



# Composition and quality of vegetable oils and fats

## Sunflower oil



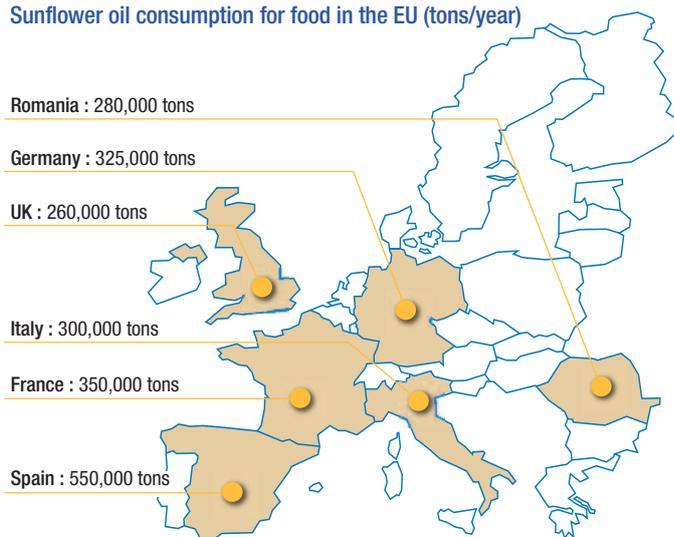
### Introduction

Sunflower is grown annually in relatively warm areas such as France, Hungary, Romania, Bulgaria, Spain and Italy, Ukraine and Russia.

Sunflower oil for food is predominantly consumed in Spain, Germany, France, Italy, Romania and the UK.

Sunflower seeds can yield up to 45% of sunflower oil and is an excellent source of protein for the animal feed industry.

Sunflower 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	11 - 12 g	1.1 - 1.2 g	5.5 - 6.0%
Mono-unsaturated fatty acids	24 - 27 g	2.4 - 2.7 g	7.1 - 7.9%
Polyunsaturated fatty acids	62 - 64 g	6.2 - 6.4 g	38.7 - 40.0%
Of which			
Omega-6	62 - 64 g	6.2 - 6.4 g	44.3 - 45.7%
Omega-3	0 g	0 g	0 %
Cholesterol	0 mg	0 mg	/
<b>Vitamin E</b>	45 - 90 mg (375 - 750%*)	4.5 - 9.0 mg (37 - 75%*)	/

No protein, carbohydrate or salt.

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

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

Sunflower oil is rich in polyunsaturated fatty acids, in omega-6 fatty acids and in vitamin E.



## Nutritional benefits

Sunflower oil is interesting for its richness in polyunsaturated fatty acids, i.e. omega-6 fatty acids in comparison to other edible oils. Sunflower oil is one of the best natural dietary sources of vitamin E.

Sunflower oil is also used in blends of vegetable oils (rapeseed, soybean, corn, etc.) and in spreadable fats to improve the vitamin E content of the products.

## 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, sunflower oil can bear the following nutrition claims:

### Nutrition Claims

#### High polyunsaturated fat

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

#### High unsaturated fat

*(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>



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

### Health claims – Positive EFSA opinion

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.

Vegetable oils and fats are part of a 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.

## Recommended uses

Sunflower oil can be used for frying, cooking and dressings.

## New varieties

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

Example: high oleic sunflower has an increased monounsaturated fatty acid content, which gives a better heat stability during frying than that of standard sunflower oil. Moreover, its content in saturated fatty acids is also reduced, whereas the vitamin E content does not change.

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.