



Composition and quality of vegetable oils and fats

Palm oil



Introduction

Palm oil is extracted from the fruits of the oil palm tree, which grows in equatorial regions, such as in Indonesia and Malaysia. “Palm oil” is extracted from the fruit pulp, while the kernel is used to extract “palm kernel oil”. The same oil palm tree therefore produces 2 different types of oil with different properties and fatty acid compositions, but with the same botanical origin.

Each palm fruit can yield about 30 – 35% palm and palm kernel oil. One hectare of oil palm trees can

produce on average 3.77 tons of oil¹ (palm and palm kernel oils combined) per year.

About one quarter of palm oil and palm kernel oil production worldwide is used domestically as cooking oil. In Europe, however, palm oil is not usually used as home cooking oil, but it is used in many manufactured food products (confectionary, fat spreads, biscuits, *etc.*).

The present nutrition factsheet covers “palm oil” only.

(1): They represent 32% of the global vegetable oil production.
(Source: Oil World 2012 and 2013.)

Nutritional composition

	100 g	10 g	% Intake versus daily recommendations (per 10g)
Energy	3700 kJ 900 kcal	370 kJ 90 kcal	4.5%*
Fats	100 g	10 g	14%*
Of which			
Saturated fatty acids	49 - 51 g	4.9 - 5.1 g	24.5 - 25.5%*
Mono-unsaturated fatty acids	38 - 41 g	3.8 - 4.1 g	11 - 12%**
Polyunsaturated fatty acids	10 - 11 g	1 - 1.1 g	6.3 - 6.9%**
Of which			
Omega-6	9.4 g	0.9 g	6.7%**
Omega-3	0 - 0.5 g	0 - 0.05 g	0 - 2.3%**
Cholesterol	0 mg	0 mg	/
Vitamin E	10 - 21 mg (83 - 175%*)	1 - 2.1 mg	8.3 - 17.5%*

No protein, carbohydrate or salt.
Variability in nutritional composition can occur due to geographical factors (for example, soil, weather, palm tree varieties, *etc.*)

(*) % of Reference Intake as per Regulation (EU) No 1169/2011 Annex XIII A and B.
(**) % of Guideline Daily Amounts, GDAs, as developed by FEDIOL and EU food industry.

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Nutritional properties

Palm oil consists of almost equal amounts of saturated and unsaturated fatty acids.

In many food applications, the use of palm oil has been instrumental in lowering *trans* fat levels. The semi-fluid or solid consistency of palm oil makes it a suitable alternative to partially hydrogenated oils and fats, which usually contain increased levels of *trans* fatty acids.

In food applications, palm oil is usually blended with other vegetable oils rich in polyunsaturated fatty acids (PUFA). This improves the nutritional composition of the final food product (i.e. by increasing the PUFA content of the final food product) whilst retaining the palm oil functionalities.

Recommended uses

Palm oil is used in variable proportions in many purchased food products such as: confectionery, biscuits, baked goods and margarines. It is often used by food manufacturers because of its many functional benefits, its versatility and its broad availability.

The main functional advantages of palm oil are:

- Great stability at high cooking temperatures.
- Enhanced food preservation properties.
- Neutral taste and smell.
- Solid or semi-solid state at room temperature.
- Smooth and creamy texture.



In many food applications, such as confectionery and biscuits, palm oil offers a good balance between a healthy nutritional profile and an appealing taste, mouth-feel and texture.

Nutritional and health claims

According to Regulation (EC) No 1924/2006, food products can bear only nutrition and health claims approved by the European Commission and meeting the specific conditions of use.

Palm oil can bear the following nutrition claim²:

High vitamin E

(more than 30% of Reference Intake as per Regulation 1169/2011 Annex XIII A of vitamin E set at 12mg/day)

In addition, the following health claim has been positively assessed by EFSA and approved for use in complying consumer food and beverages (Regulation (EU) No 432/2012):

Vitamin E contributes to the protection of cells from oxidative stress.

New Palm cultivars

Research on new varieties of palm is ongoing to develop palm fruits that produce more flesh and therefore more oil, but as well to improve the nutritional profile of the produced oils.

Example: High Oleic Palm Oil with a 30 % increase in unsaturated fatty acids and equal decrease in saturated fatty acids.

(2) This applies should the palm oil content in the final food product be in line with the above mentioned requirements.

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.