
Frying Oils and Nutrition

There is a wide range of frying media on the market and the ones that are available are divided into three groups, depending upon their appearance at room temperature:-

1. Liquid – groundnut oil, soyabean oil, rapeseed oil, corn oil etc. as well as blends of liquid oil
2. Solid – palm oil, lard and dripping
3. Semi-liquid – brands based on blended or hydrogenated vegetable oils

Due to the nature of their composition, some oils and fats tend to be more sensitive to heat and spoil more rapidly than others. It is therefore safer to use fats and oils which have been specifically designed and processed for the purpose of frying.

Nutritionally, liquid oils like Rape, Soya and Sunflower are OK on the first few frying cycles, but because they are reasonably high in polyunsaturates, which are unstable at high temperatures, they can form breakdown products during the frying process which can be unhealthy.

Solid fats like Palm oil and Animal Fats are naturally very stable in a frying situation but are higher in saturates which should not be eaten in excess. However, as most people eat fish and chips no more than once a week, this should not present a health issue.

Semi-liquid frying media are more stable than normal vegetable oil blends as they have probably been hydrogenated. Hydrogenated oils are available in many forms, but those used in the frying industry are usually semi-liquid for ease of handling but can be solid for those more used to handling solid fats.

As part of the hydrogenation process, some of the unsaturated fats are converted into trans fatty acids. Trans fats are also present in our diet from their natural occurrence in certain animal and dairy fats. It is impossible to distinguish the health effects of TFA from natural or industrial origin.

According to recent studies, the effect of trans fatty acids on coronary heart disease is greater than saturates however, trans fatty acids are consumed at much lower levels (<2% of the dietary energy) than saturated fatty acids and therefore we should continue with current Government advice to reduce our saturated fatty acids intake.

The average intake of trans from both natural and hydrogenated oils was measured in several European countries, including the UK, in 1995 and was found to be low, much lower than the levels recorded in the USA. The UK's actual intake of energy from manufactured trans fats was around 0.8%. As a result of public interest the use of hydrogenated oils in the manufacturing industry has been reduced over the past few years, especially in the margarine, confectionery and bakery industries, and this will have had a positive impact on consumption levels.