

## Annex: Scientific evidence regarding fats in the diet

- Part 1. EFSA Scientific Opinions underpinning nutrition and health claims
- Part 2. (Inter)national scientific research and advice for recommendations
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### Part 1. EFSA Scientific Opinions underpinning nutrition and health claims

- 1.1 EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on health claims already evaluated (ID 215, 568, 674, 712, 1398, 1633, 1974, 4191, 4192, 4193, 4236, 4335, 4698, 4704) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA Journal 2011; 9(6):2203. [22 pp.]. doi:10.2903/j.efsa.2011.2203. Available online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal) and EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on the substantiation of health claims related to alpha-linolenic acid and maintenance of normal blood cholesterol concentrations (ID 493) and maintenance of normal blood pressure (ID 625) pursuant to Article 13(1) of Regulation (EC) No 1924/2006 on request from the European Commission. EFSA Journal 2009; 7(9):1252. [17 pp.]. doi:10.2903/j.efsa.2009.1252. Available online: [www.efsa.europa.eu](http://www.efsa.europa.eu)

Following EFSA assessment, health benefits of alpha-linolenic acid (ALA) have been recognised as contributing to the maintenance of normal blood cholesterol levels, with a daily intake of 2 g of ALA, for food being at least a source of ALA as referred to in the claim “source of omega 3 fatty acids” as listed in the Annex to Regulation (EC) No 1924/2006.

*Alpha-linolenic acid (ALA) (ID 568) The food constituent that is the subject of the health claim is “omega-3 fatty acids”. From the proposed conditions of use and the references provided, the Panel assumes that the food constituent, which is the subject of the health claim, is alpha-linolenic acid (ALA). The Panel considers that the food constituent, alpha-linolenic acid (ALA), which is the subject of the health claim, is sufficiently characterised (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2009c). (...) The claimed effect is “cardiovascular system”. The Panel assumes that the target population is the general population. In the context of the proposed wordings, the Panel assumes that the claimed effect refers to the maintenance of normal blood cholesterol concentrations. A claim on ALA and maintenance of normal blood cholesterol concentrations has already been assessed with a favourable outcome (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2009c).*

*Replacement of mixtures of saturated fatty acids (SFAs) as present in foods or diets with mixtures of polyunsaturated fatty acids (PUFAs) (ID 674, 4335) The food constituent that is the subject of the health claims is “polyunsaturated fatty acids”. In the context of the proposed wordings, the Panel assumes that the food constituent, which is the subject of the health claim, is saturated fatty acids (SFAs), which should be replaced by cis-polyunsaturated fatty acids (cis-PUFAs) in foods or diets in order to obtain the claimed effect. The Panel considers that the food constituent, saturated fatty acids as present in foods or diets, and the food constituent, mixtures of cis-PUFAs, which should replace SFAs in foods, and which are the subject of the health claim, are sufficiently characterised (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2011a). (...) The claimed effect is “cardiovascular system”. The Panel assumes that the target population is the general population. In the context of the proposed wordings, the Panel assumes that the claimed effects refer to the maintenance of normal blood LDL-cholesterol concentrations. A claim on the replacement of mixtures of SFAs with cis-MUFAs and/or cis-PUFAs in foods or diets and maintenance of normal blood LDL-cholesterol concentrations has already been assessed with a favourable outcome (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2011a).*

- 1.2 EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on the substantiation of health claims related to the replacement of mixtures of saturated fatty acids (SFAs) as present in foods or diets with mixtures of monounsaturated fatty acids (MUFAs) and/or mixtures of polyunsaturated fatty acids (PUFAs), and maintenance of normal blood LDL-cholesterol concentrations (ID 621, 1190, 1203, 2906, 2910, 3065) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA Journal 2011;9(4):2069. [18 pp.]. doi:10.2903/j.efsa.2011.2069. Available online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal)**

*The Panel concludes that a cause and effect relationship has been established between the consumption of mixtures of dietary SFAs and an increase in blood cholesterol concentrations, and that replacement of a mixture of SFAs with cis-MUFAs and/or cis-PUFAs in foods or diets on a gram-per-gram basis may help maintain normal blood LDL-cholesterol concentrations.*

- 1.3 EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on the substantiation of a health claim related to “low fat and low trans spreadable fat rich in unsaturated and omega-3 fatty acids” and reduction of LDL-cholesterol concentrations pursuant to Article 14 of Regulation (EC) No 1924/2006. EFSA Journal 2011;9(5):2168. [13 pp.]. doi:10.2903/j.efsa.2011.2168. Available online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal)**

*The Panel concludes that a cause and effect relationship has been established between the consumption of mixtures of dietary SFAs and an increase in LDL-cholesterol concentrations, and that replacement of a mixture of SFAs with cis-MUFAs and/or cis-PUFAs in foods or diets on a gram-per-gram basis reduces LDL-cholesterol concentrations.*

- 1.4 EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on the substantiation of health claims related to oleic acid intended to replace saturated fatty acids (SFAs) in foods or diets and maintenance of normal blood LDL-cholesterol concentrations (ID 673, 728, 729, 1302, 4334) and maintenance of normal (fasting) blood concentrations of triglycerides (ID 673, 4334) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA Journal 2011;9(4):2043. [17 pp.]. doi:10.2903/j.efsa.2011.2043. Available online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal)**

*The evidence provided by consensus opinions/reports from authoritative bodies and reviews shows that there is good consensus that a mixture of SFAs increases total and blood LDL-cholesterol concentrations relative to mixtures of cis-MUFAs (EFSA, 2004; EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2010; IoM, 2005; Lichtenstein et al., 2006; Mensink et al., 2003; WHO/FAO, 2003), and that there is a linear dose-response relationship between blood LDL-cholesterol concentrations and the amounts of long-chain SFAs consumed. It is also well established that consumption of a mixture of SFAs results in increased blood HDL-cholesterol concentrations compared with consumption of mixtures of cis-MUFAs (e.g. oleic acid), and that in comparison with other fatty acids, except trans fatty acids (TFAs), SFAs increase the total-to-HDL cholesterol ratio (Mensink et al., 2003). A claim on the replacement of mixtures of SFAs with cis-MUFAs and/or cis-PUFAs in foods or diets and maintenance of normal blood LDL-cholesterol concentrations has already been assessed with a favourable outcome (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2011). The scientific conclusions in that opinion apply to the replacement of mixtures of SFAs as present in foods or diets with oleic acid.*

- 1.5 EFSA Panel on Dietetic Products, Nutrition, and Allergies (NDA); Scientific Opinion on Dietary Reference Values for fats, including saturated fatty acids, polyunsaturated fatty acids, monounsaturated fatty acids, trans fatty acids, and cholesterol. EFSA Journal 2010; 8(3):1461. [107 pp.]. doi:10.2903/j.efsa.2010.1461. Available online: <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2010.1461>**

*There is a negative (beneficial), dose-dependent relationship between the intake of linoleic acid and blood LDL cholesterol concentrations, while this relationship is positive for HDL cholesterol concentrations. In addition, linoleic acid (LA) lowers fasting blood triacylglycerol concentrations when compared to carbohydrates. There is also evidence that replacement of saturated fatty acids by n-6 polyunsaturated fatty acids (without changing total fat intake) decreases the number of cardiovascular events in the population.*

*(...)the human body can synthesise eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) from alpha-linolenic acid. Intervention studies have demonstrated beneficial effects of preformed n-3 long-chain polyunsaturated fatty acids on recognised cardiovascular risk factors, such as a reduction of plasma triacylglycerol concentrations, platelet aggregation, and blood pressure. These effects were observed at intakes 1g per day, well above levels that were associated with lower cardiovascular disease (CVD) risk in epidemiological studies. With respect to cardiovascular diseases, prospective epidemiological and dietary intervention studies indicate that oily fish consumption or dietary n-3 long-chain polyunsaturated fatty acids supplements (equivalent to a range of 250 to 500 mg of eicosapentaenoic acid plus docosahexaenoic acid daily) decrease the risk of mortality from coronary heart disease (CHD) and sudden cardiac death. An intake of 250 mg per day of eicosapentaenoic acid plus docosahexaenoic acid appears to be sufficient for primary prevention in healthy subjects. Therefore, and taking into account that available data are insufficient to derive an Average Requirement, the Panel proposes to set an Adequate Intake of 250 mg for eicosapentaenoic acid plus docosahexaenoic acid for adults based on cardiovascular considerations.*

## Part 2. (Inter)national scientific research and advice for recommendations

### 2.1 The Netherlands Health Council, [Richtlijnen Goede Voeding 2015](#)

**Replace animal and hard margarines fat by liquid vegetable oils and margarines and favour liquid vegetable oils like sunflower or olive oils. Linseed oil and soybean oil are also good options regarding their content in alpha-linoleic fatty acids**

*De richtlijn Gezondheidsraad is 'Vervang boter, harde margarines en bak- en braadvetten door zachte margarines, vloeibaar bak- en braadvet en plantaardige oliën'. Het advies van de Gezondheidsraad voor deze productgroep is geformuleerd in vervangingstermen: vervang verzadigd vet door onverzadigd vet. Om deze redenen wordt voor deze productgroep afgeweken van de keuze om alle criteria uit te drukken per 100 gram product en wordt het verzadigd-vet criterium uitgedrukt als percentage van totaal vet.*

*Bepaalde bereidingsvetten bevatten meer alfa-linoleenzuur dan andere. Op het etiket is te lezen of en meestal ook hoeveel alfa-linoleenzuur het product bevat. Het gebruiken van bijvoorbeeld een olie met een hogere hoeveelheid alfa-linoleenzuur (een aantal gram per 100 gram, zoals lijnzaadolie en sojaolie) kan de inname verhogen. Binnen de groep noten bevatten walnoten een relatief hoge hoeveelheid alfa-linoleenzuur.*

*(...) Het vervangen van 1 energieprocent verzadigde vetzuren door cis-enkelvoudig onverzadigde vetzuren verlaagt het LDL-cholesterol met 0,041 mmol/l*

*\_ Het vervangen van 1 energieprocent verzadigde vetzuren door cis-meervoudig onverzadigde vetzuren verlaagt het LDL-cholesterol met 0,051 mmol/l*

*\_ Het vervangen van 10 energieprocent verzadigde vetzuren door meervoudig onverzadigde vetzuren verlaagt het risico op coronaire hartziekten met 15%*

*\_ Een 5 energieprocent hogere inname van meervoudig onverzadigde vetzuren 'ten opzichte van' verzadigde vetzuren hangt samen met een ongeveer 10% lager risico op coronaire hartziekten. (...)*

<https://www.gezondheidsraad.nl/organisatie/voeding/documenten/adviezen/2015/11/04/verzadigde-enkelvoudig-en-meervoudig-onverzadigde-n-6-vetzuren---achtergronddocument-bij-richtlijnen-goede-voeding-2015>

### 2.2 Schuurman et al, [RIVM Memo 2020-0082](#) Eet en drinkt Nederland volgens de Richtlijnen Schijf van Vijf? Resultaten van de voedselconsumptiepeiling 2012-2016 Smeer- en bereidingsvetten

*De totale consumptie van smeer- en bereidingsvetten voor 1 tot en met 79-jarigen was gemiddeld 25 gram per dag. Van de hoeveelheid geconsumeerde smeer- en bereidingsvetten viel 52% binnen de Schijf van Vijf, dat komt overeen met 13 gram per dag. De hoeveelheid totaal en binnen de Schijf namen beide toe met de leeftijd en mannen tot 70 jaar consumeerden gemiddeld significant meer dan vrouwen. De consumptie van smeer- en bereidingsvetten passend binnen de Schijf van Vijf lag voor vrijwel alle kinderen en volwassenen beneden de aanbevolen hoeveelheden. Vrijwel niemand (<1%) at meer dan de aanbevolen hoeveelheid voor smeer- en bereidingsvetten. Als de vetten die niet aan de criteria van de Schijf van Vijf voldoen werden meegerekend consumeerde 5% van de 1-79-jarigen minimaal de aanbevolen hoeveelheid*

### 2.3 EAT-Lancet study : replace animal fat by vegetable oils high in unsaturated fat like olive, soybean, rapeseed, sunflower and peanut oils

*(...) Healthy diets have an appropriate caloric intake and consist of a diversity of plant-based foods, low amounts of animal source foods, unsaturated rather than saturated fats, and small amounts of refined*

grains, highly processed foods, and added sugars.(...) **Unsaturated oils are 20% each of olive, soybean, rapeseed, sunflower, and peanut oil.** (...)

*Evidence supports a substantially reduced risk of cardiovascular disease by replacing saturated fat with unsaturated vegetable oils, especially those high in polyunsaturated fats that include omega-3 and omega-6 fatty acids.* 99, 101, 102, 103

**Evidence supports consumption of plant oils low in saturated fat as an alternative to animal fats; however, no clear upper limit of consumption exists. Thus, a wide range is suggested, and we use 50 g/day of total added fat with a mix emphasising predominately unsaturated plant oils.**

(99) Wang DD Li Y Chiuve SE et al. Association of specific dietary fats with total and cause-specific mortality. *JAMA Intern Med.* 2016; 176: 1134-1145

(101) Farvid MS Ding M Pan A et al. Dietary linoleic acid and risk of coronary heart disease: a systematic review and meta-analysis of prospective cohort studies. *Circulation.* 2014; 130: 1568-1578

(102) Chowdhury R Warnakula S Kunutsor S et al. Association of dietary, circulating, and supplement fatty acids with coronary risk: a systematic review and meta-analysis.

*Ann Intern Med.* 2014; 160: 398-406

(103) Sacks F Dietary fats and coronary heart disease. *J Cardiovasc Risk.* 1994; 1: 3-8

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)

#### **2.4 WHO draft guideline on SAFA and TFA – draft for public consultation May 2018** [https://extranet.who.int/dataform/upload/surveys/666752/files/Draft%20WHO%20SFA-TFA%20guidelines\\_04052018%20Public%20Consultation\(1\).pdf](https://extranet.who.int/dataform/upload/surveys/666752/files/Draft%20WHO%20SFA-TFA%20guidelines_04052018%20Public%20Consultation(1).pdf)

*Reduced intake of saturated fatty acids has been associated with a significant reduction in risk of coronary heart disease (CHD) when replaced with polyunsaturated fatty acids (PUFA) or carbohydrates from whole grains (3-6).*

#### **2.5 WHO draft guideline on total fats – draft for public consultation April 2021**

*Dietary fat, including essential fatty acids, which cannot be synthesized by the human body, is necessary for proper physiological function. To ensure an adequate intake of energy and essential fatty acids, and to facilitate the absorption of lipid soluble vitamins, total fat intake in most adults should be at least 15–20% of total energy intake (67), although energy requirements are increased during pregnancy and lactation (6, 7, 62).*

*(...)The recommendations in this guideline acknowledge that both quantity and quality of fat consumed are important for maintaining health. Public health interventions should therefore aim to reduce total fat intake where necessary, while reducing saturated fatty acid and trans-fatty acid intake, through replacement with unsaturated fatty acids and/or carbohydrates as needed (63, 64), and without increasing free sugars intake (58).*

#### **2.6 Mensink, [Effects of saturated fatty acids on serum lipids and lipoproteins: a systematic review and regression analysis](#), WHO 2016**

*Results of the multiple regression analysis indicated that effects on the serum lipoprotein profile of reducing SFA intake by replacing a mixture of SFA with cis-PUFA (predominantly linoleic acid and  $\alpha$ -linolenic acid) or cis-MUFA (predominantly oleic acid) were more favourable than replacing SFA with a mixture of carbohydrates. For total and LDL cholesterol and triglycerides in particular, the most*

*favourable effects were observed for cis-PUFA. These results are consistent across a wide range of SFA intakes including intakes of less than 10% of total energy intake.*

**2.7 Hooper L, Martin N, Abdelhamid A, Davey Smith G. Reduction in saturated fat intake for cardiovascular disease. Cochrane Database Syst Rev. 2015;6:CD011737. pmid:26068959.**

*A recent Cochrane review suggests that replacing foods that are rich in saturated fat (SFA), such as meat, butter, and cheese, with foods that are rich in polyunsaturated fat (PUFA), such as walnuts, fish, and vegetable oils such as sunflower and safflower oils, would lead to 27% less cardiovascular events*

*There is a large body of evidence, including almost 60,000 people who have been in studies assessing effects of reducing saturated fat for at least two years each. Together the studies provide moderate-quality evidence that reducing saturated fat and replacing it with polyunsaturated fats reduces our risk of cardiovascular disease.*

**2.8 Sioen I, van Lieshout L, Eilander A, Fleith M, Lohner S, Szommer A, Petisca C, Eussen S, Forsyth S, Calder PC, Campoy C, Mensink RP. Systematic Review on N-3 and N-6 Polyunsaturated Fatty Acid Intake in European Countries in Light of the Current Recommendations - Focus on Specific Population Groups. Ann Nutr Metab. 2017;70(1):39-50. doi: 10.1159/000456723. Epub 2017 Feb 11.**

*Fifty-three studies from 17 different European countries reported an intake of total n-3 and n-6 PUFAs and/or individual n-3 or n-6 PUFAs in at least one of the specific population groups: 10 in pregnant women, 4 in lactating women, 3 in infants 6-12 months, 6 in children 1-3 years, 11 in children 4-9 years, 8 in adolescents 10-18 years and 11 in elderly >65 years. Mean linoleic acid intake was within the recommendation (4 energy percentage [E%]) in 52% of the countries, with inadequate intakes more likely in lactating women, adolescents and elderly. Mean  $\alpha$ -linolenic acid intake was within the recommendation (0.5 E%) in 77% of the countries. In 26% of the countries, mean eicosapentaenoic acid and/or docosahexaenoic acid intake was as recommended. These results indicate that intake of n-3 and n-6 PUFAs may be suboptimal in specific population groups in Europe.*

## Part 3. (International) Dietary Recommendations

### A. EU Member States dietary guidelines

#### 3.1 Overall comparison made by EPHNA

(...) Most countries have a key message to limit animal fat and increase the consumption of vegetable fats or total fat (Czechia, Germany) and others recommend as healthy choices specific fats like olive oil (Greece, Spain).

<http://ephna.org/siteAssets/Similarities%20and%20differences%20in%20Food%20based%20Dietary%20Guidelines%20throughout%20European%20by%20Greece.pdf>

#### 3.2 The Netherlands, Richtlijnen Schijf van Vijf, The Netherlands Nutrition Centre

##### Hoofdgroep Smeer- en bereidingsvetten

Subgroep	Schijfcriteria	In de schijf	Buiten de schijf
Smeersel, olie, bak- en braadproducten	VV: ≤ 30% totaal vet TV: ≤ 1 g/100 g Na: ≤ 160 mg/100 g TS: niet toegevoegd	Halvarine en margarine uit een kuipje	Margarine en bak- en braadvet in een wikkel
		Vloeibare margarine en bak- en braad uit een fles	Hard frituurvet, zoals ossenwit
		Plant aardige olie, zoals zonnebloemolie en olijfolie	Kokosvet Roomboter

The publication of the guidelines in an international scope:

[https://www.voedingscentrum.nl/Assets/Uploads/voedingscentrum/Documents/Professionals/Schijf%20van%20Vijf/development of healthy and sustainable foodbased dietary guidelines for the netherlands.pdf](https://www.voedingscentrum.nl/Assets/Uploads/voedingscentrum/Documents/Professionals/Schijf%20van%20Vijf/development%20of%20healthy%20and%20sustainable%20foodbased%20dietary%20guidelines%20for%20the%20netherlands.pdf)

#### 3.3 Belgium : replace animal fat by vegetable oils and favour vegetable oils rich in PUFA and in omega 3 (such as carthame, walnut, linseed, sunflower, soybean, maize, sesam and rapeseed oils) and olive oil

(...) Pour remplacer les margarines dures et le beurre, donnez la préférence aux huiles non tropicales, aux matières grasses tartinables et aux matières grasses de cuisson molles ou liquides, dont la composition en acides gras est meilleure pour le cœur et les vaisseaux. (...)

(...) Une alimentation pauvre en acides gras polyinsaturés et en acides gras oméga-3 provenant de la consommation de poisson, crustacés et fruits de mer et riche en acides gras trans et/ou saturés accroît le risque de maladies cardiovasculaires. Le CSS recommande aux adultes de consommer 5-10 % de leurs apports énergétiques sous la forme d'acides gras polyinsaturés, dont 4-8 % sous la forme d'acides gras polyinsaturés n6 et 1-2 % sous la forme d'acides gras polyinsaturés n-3 (CSS, 2016). L'étude GBD laisse entendre que la part des acides gras polyinsaturés dans l'alimentation ne devrait idéalement pas être inférieure à 12 % de l'apport énergétique. Parmi les huiles riches en acides gras polyinsaturés, citons par exemple, par ordre décroissant, l'huile de carthame, l'huile de noix, l'huile de lin, de tournesol, de soja, de germes de maïs, de sésame et de colza. Les huiles de lin, de noix, de colza et de soja possèdent la teneur la plus élevée en acides gras oméga-3 et les huiles de carthame, de tournesol, de noix, de germes de maïs et de soja sont riches en acides gras oméga-6. Parmi les huiles riches en acides gras mono-insaturés, citons, par ordre décroissant, l'huile de noisettes, l'huile d'olive, l'huile de

colza, l'huile d'arachide et l'huile de sésame. Une huile de tournesol à haute teneur en acide gras oléique a une composition en acides gras comparable à celle de l'huile d'olive.

[https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth\\_theme\\_file/20190902\\_css-9284\\_fbdg\\_vweb\\_0.pdf](https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/20190902_css-9284_fbdg_vweb_0.pdf)

### 3.4 France : favour rapeseed, walnut and olive oils

(...) Les matières grasses ajoutées – huile, beurre et margarine – peuvent être consommées tous les jours en petites quantités. Privilégiez l'huile de colza, de noix et d'olive.

Recommandations relatives à l'alimentation, à l'activité physique et à la sédentarité pour les adultes. Saint-Maurice : Santé publique France, 2019. 62 p.

### 3.5 Italy : replace animal fat by vegetable seeds oils and favour olive oil

La loro funzione principale è quella di accumulare (e ovviamente fornire) energia in maniera concentrata (9 calorie per grammo, cioè più del doppio rispetto quella fornita da proteine e carboidrati) e di formare le membrane cellulari. Alcuni tipi di acidi grassi polinsaturi (PUFA) sono detti "essenziali" perché non sintetizzati dall'organismo, ma sono dotati di importanti funzioni biologiche e devono essere introdotti con gli alimenti. Questi sono l'acido linoleico, che appartiene alla famiglia degli omega-6 (o PUFA n-6) e l'acido alfa-linolenico che appartiene alla famiglia degli omega-3 (o PUFA n-3). I grassi degli alimenti svolgono anche

Non è tuttavia inutile ricordare che i grassi come tali non devono essere demonizzati, al contrario, l'uso in cucina e in tavola di grassi nelle giuste quantità è necessario, sia per i motivi già ricordati (fornire energia, vitamine liposolubili e acidi grassi essenziali, ecc.) sia per aumentare l'assorbimento dei nutrienti e delle sostanze liposolubili.

I grassi vegetali (non tropicali) al contrario hanno un effetto inverso sulla colesterolemia, per la prevalenza di acidi grassi insaturi rispetto ai saturi. Gli oli ricchi di acidi grassi monoinsaturi (oliva, arachide, girasole ad alto oleico, ecc.) comportano una riduzione minore della colesterolemia totale rispetto ad altri oli più ricchi di acidi grassi polinsaturi, ma hanno un effetto specifico nell'aumento del "colesterolo buono" cioè di quello presente nelle HDL.

1. Non è vero che la margarina è il grasso da condimento più leggero e salutare: pur ideato come sostituto leggero del burro, è un grasso alimentare ricco di acidi grassi saturi. È sempre preferibile condire gli alimenti con olio di oliva (meglio ancora se extravergine) che, viste le sue importanti proprietà, è il grasso da condimento tipico dell'alimentazione italiana, pur raccomandando di non eccedere nelle quantità, per il suo apporto calorico pari a quello degli altri grassi.

<https://www.crea.gov.it/documents/59764/0/LINEE-GUIDA+DEFINITIVO+%281%29.pdf/3c13ff3d-74dc-88d7-0985-4678aec18537?t=1579191262173>

### 3.6 Luxembourg : replace animal fat by vegetable oils and favour olive and rapeseed oils

(...)Les huiles, et surtout l'huile d'olive et l'huile de colza, ont l'avantage d'avoir des propriétés cardio-protectrices.(...)

Préférez les graisses végétales aux graisses animales.(...)

<https://sante.public.lu/fr/publications/m/mange-bouger-fr-de/manger-bouger-fr.pdf>

### 3.7 Hungary : replace animal fat by vegetable oils and favour rapeseed, soybean and olive oils and vegetable oils rich in PUFA

A repce-, a szója- és az olívaolajban jelentős mennyiségben lévő egyszer telítetlen zsírsavak csökkentik a vérben a koleszterinszintet, ezáltal csökken az érlemezsedés kialakulásának kockázata.

(...) A zsiradékok közül elsősorban a telített zsírsavforrásokat (az állati eredetű zsiradékokat) kell csökkenteni a táplálkozásban, mert ezek bőséges fogyasztásának hatására növekszik a vérben a



koleszterinszint, fokozódik a trombózisok, valamint a rendetlen szívritmus kialakulásának veszélye. A többszörösen telítetlen zsírsavakban gazdag növényi olajok (étolaj, margarinok) hatására csökken a vérben a koleszterinszint. Ha egy lakosságcsoportban az átlagos koleszterinszint 10 százalékkal nő, akkor a következő években a szívinfarktuszok száma is nő 20-25 százalékkal. Szerencsére ennek a fordítottja is igaz – az átlagos vérkoleszterin-szint csökkenését az infarktuszok csökkenése követi.

#### Esszenciális zsírsavak

Olyan többszörösen telítetlen zsírok, melyeket a szervezet nem képes maga előállítani, de működéséhez nélkülözhetetlenek, más szóval esszenciálisak. Az esszenciális zsírsavakat két osztályra lehet bontani, az omega-3 és az omega-6 csoportra. Ezeket a zsírokat az étkezéssel keresztül tudjuk magunkhoz venni. Az omega-3 zsírsavak elsősorban a vadvízi halakban és a füvel táplált állatok húsaiban találhatók meg.

<http://www.fao.org/3/as684o/as684o.pdf>

<http://mdosz.hu/uj-taplalkozasi-ajanlasok-okos-tanyer/>

### 3.8 Poland: replace animal fat by vegetable oils and favour rapeseed and olive oils and vegetable oils rich in PUFA

(...) Wysokie spożycie tłuszczu zwierzęcego, bogatego w nasycone kwasy tłuszczowe, zwiększa ryzyko wystąpienia takich schorzeń, jak: choroby układu krążenia, cukrzyca typu 2, nowotwory. Dlatego najczęściej powinien być spożywany tłuszcz roślinny (zwłaszcza olej rzepakowy lub oliwa z oliwek), ale w niewielkich ilościach i najlepiej w postaci surowej, jako dodatek do surówek czy innych potraw. Tłuszcze roślinne dostarczają nienasyconych kwasów tłuszczowych, wśród których zwłaszcza jednonienasycone i wielonienasycone z rodziny omega-3 są bardzo korzystne dla naszego organizmu. Do smażenia należy używać olej rzepakowy bądź oliwę z oliwek (zawarte w nich jednonienasycone kwasy tłuszczowe są bardziej odporne na szkodliwe zmiany pod wpływem wysokiej tempera.

<http://www.izz.waw.pl/attachments/article/7/Piramida%20Zdrowego%20C5%BBywienia%20%20Akt ywno%20C5%9Bci%20Fizycznej%20Broszura.pdf>

### 3.9 Czech Republic: reduce animal fat intake and replace by vegetable oils like rapeseed and olive oil

(...) snížení příjmu živočišných tuků a zvýšení podílu rostlinných olejů v celkové dávce tuku, z nich pak zejména oleje olivového a řepkového, pokud možno bez tepelné úpravy pro zajištění optimálního složení mastných kyselin přijímaného tuku. Výrazné omezení příjmu potravin obsahujících kokosový tuk, palmojadrový tuk a palmový olej

<http://www.mmr.cz/getmedia/ce28c415-4891-4374-a038-f61795cb15d6/GetFile8>

### 3.10 Slovak Republic: reduce animal fat intake and replace by vegetable oils high in unsaturated fat like

(...) znížiť príjem živočišných tukov o 20% a nahradiť väčšinu nasýtených živočišných tukov nenasýtenými rastlinnými olejmi alebo roztierateľnými tukmi (margarínmi),

[https://www.uvzsr.sk/docs/info/hv/Aktualizovany\\_Program\\_ozdravenia\\_vyzivy.pdf](https://www.uvzsr.sk/docs/info/hv/Aktualizovany_Program_ozdravenia_vyzivy.pdf)

### 3.11 Germany : favour vegetable oils like rapeseed oil but also walnut, soybean, olive, sunflower and maize oils

(...) Öle und Fette enthalten viele Kalorien.

Sie liefern aber auch lebensnotwendige Fettsäuren und Vitamin E. Bei dem geringen Mengenanteil von Ölen und Fetten in einer vollwertigen Ernährung ist eine optimale Auswahl von besonderer Bedeutung.

Bevorzugen Sie pflanzliche Öle wie beispielsweise Rapsöl und daraus hergestellte Streichfette. EMPFEHLENSWERTE LEBENSMITTEL: ■

haben eine günstige Fettsäurenkombination ■ enthalten wenig Cholesterin und trans-Fettsäuren ■ sind in der Küche vielseitig einsetzbar

<https://www.dge.de/fileadmin/public/doc/fs/3dlmp/200714-DGE-Arbeitsblaetter-03-formular-fette.pdf>



### 3.12 Switzerland : favour vegetable oils, in particular rapeseed oil

(...) *Cependant, dans ces études et dans d'autres, une réduction du risque de maladies cardiovasculaires a été mise en évidence en cas de substitution de matières grasses comportant une proportion relativement élevée d'acides gras saturés par des matières grasses ayant une teneur relativement élevée en acides gras polyinsaturés (8)(9)(10)(11). (...)*

*La substitution de matières grasses contenant une proportion élevée d'acides gras saturés par des matières grasses avec une large part d'acides gras polyinsaturés a également eu des effets positifs sur l'insulino-résistance et donc sur le risque de diabète (13).*


(...) *il est recommandé de consommer 2 à 3 cuillères à soupe d'huile végétale, dont au moins la moitié sous forme d'huile de colza, et 1 portion (20 à 30 g) de fruits à coque ou de graines non salées par jour, à quoi peut s'ajouter chaque jour une petite quantité (env. 1 cuillère à soupe ou 10 g par jour) de beurre, de margarine, de crème, etc.*

<https://www.blv.admin.ch/blv/fr/home/lebensmittel-und-ernaehrung/ernaehrung/empfehlungen-informationen/schweizer-lebensmittelpyramide.html>

<https://www.blv.admin.ch/blv/fr/home/das-blv/organisation/kommissionen/ee/fette-in-der-ernaehrung.html>

### 3.13 Spain : reduce consumption of fat and in particular from animal origin and favour olive oil or sunflower oil

(...) *Reduce las grasas. Nuestra alimentación actual supone un excesivo consumo de grasas perjudiciales para la salud, como son las de origen animal y algunas de origen vegetal, como los aceites de coco, palma o palmiste. Pero hay grasas beneficiosas que, con moderación, sí deben formar parte de la dieta, como las que se encuentran en los pescados "azules" (sardina, caballa, boquerón, salmón...) o en el aceite de oliva.*

 Aceite vegetal (de oliva o de girasol)	3-5 raciones al día	10 ml	1 cucharada sopera
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[http://www.aecosan.msssi.gob.es/AECOSAN/docs/documentos/nutricion/alimentacion\\_sana\\_para\\_todos.pdf](http://www.aecosan.msssi.gob.es/AECOSAN/docs/documentos/nutricion/alimentacion_sana_para_todos.pdf)

### 3.14 Portugal : favour vegetable oils high in PUFA

(...) *GORDURA POLINSATURADA. A gordura polinsaturada reconhece-se geralmente pelo facto de ser líquida à temperatura ambiente podendo, tal como as gorduras monoinsaturadas, solidificar naturalmente se submetida a temperaturas ambientes muito baixas. Este tipo de gordura é predominantemente constituído por ÁCIDOS GORDOS POLINSATURADOS. Estes dizem-se polinsaturados, porque dispõem na sua estrutura química de ligações livres, entre os átomos de carbono, o que lhes permite reagir com outros átomos. Os ácidos gordos polinsaturados são componentes fundamentais da nossa alimentação. Desempenham papéis essenciais na resposta à infecção, são essenciais no crescimento e desenvolvimento do nosso organismo, na produção de metabolitos essenciais que contribuem de modo decisivo para a modelação da resposta cardiovascular, entre muitas outras funções. No seu conjunto, estes ácidos são considerados essenciais, porque o nosso organismo não os consegue sintetizar a partir de outras substâncias, por isso têm que ser fornecidos pelo regime alimentar. Entre os ácidos gordos polinsaturados, temos os ácidos gordos da série ómega 6 e os ácidos gordos da série ómega 3, que se distinguem com base na sua estrutura química e nas diferentes funções que cada um desempenha. São boas fontes de gordura polinsaturada: óleos vegetais, frutos oleaginosos, cereais integrais, sementes, gordura de peixe, óleo de fígado de peixe e hortícolas de cor verde escura. (...)*

<https://www.dgs.pt/upload/membro.id/ficheiros/i008722.pdf>

### 3.15 Sweden : replace saturated fat by unsaturated fat and use oil like rapeseed or olive oil

(...) **USE OIL FOR FRYING** Rapeseed oil and olive oil, like liquid fats, are ideal for frying. Our bodies need fat, but it has to be the right kind. Oils and other cooking fats carrying the Keyhole symbol contain unsaturated fats, and it's good to eat more of these. Rapeseed oil contains particularly healthy omega-3 fat, which our bodies can't create. But all fats are heavy on the calories. So we have to cut back on the less healthy fats so that we've got space for the healthier varieties. Saturated fat is less good for us and can be found in products such as butter and palm oil, and in coconut oil as well. Research has clearly shown a reduced risk of cardiovascular disease when some saturated fat is swapped for unsaturated fat. (...)

<https://www.livsmedelsverket.se/globalassets/publikationsdatabas/andra-sprak/kostraden/kostrad-eng.pdf?AspxAutoDetectCookieSupport=1>

### 3.16 Denmark: favour vegetable oils like rapeseed and olive oil

(...) Choose vegetable oils and low-fat dairy products. Vegetable oils, such as rapeseed and olive oil, are good sources of fats when you want to eat a healthy and climatefriendly diet. Choosing vegetable oils instead of solid fats, such as butter and coconut oil, is good for your health and you will get more of the fats you need. However, all types of fats contain many calories. It is therefore important that you limit your intake. (...)

[https://altomkost.dk/fileadmin/user\\_upload/altomkost.dk/Publikationsdatabase/De\\_officielle\\_Kostraad\\_2021/Danish\\_Official\\_Dietary\\_Guidelines\\_Good\\_for\\_Health\\_and\\_climate\\_2021\\_PRINT\\_ENG.pdf](https://altomkost.dk/fileadmin/user_upload/altomkost.dk/Publikationsdatabase/De_officielle_Kostraad_2021/Danish_Official_Dietary_Guidelines_Good_for_Health_and_climate_2021_PRINT_ENG.pdf)

### 3.17 Austria: Use unsaturated over saturated fat. Favour vegetable oils like olive, canola, walnut, soybean, linseed, sesame, maize, sunflower, pumpkin seed and grape seed oils.

(...) Täglich ein bis zwei Esslöffel pflanzliche Öle, Nüsse oder Samen. Hochwertige pflanzliche Öle sind z.B. Oliven-, Raps-, Walnuss-, Soja-, Lein-, Sesam-, Maiskeim-, Sonnenblumen-, Kürbiskern- und Traubenkernöl. (...)

(...) Bei der Auswahl von Fetten sollte unbedingt Qualität vor Menge gelten. Die Fettqualität wird im Wesentlichen durch die enthaltenen Fettsäuren bestimmt. Pflanzliche Öle sowie Nüsse und Samen enthalten wertvolle, ungesättigte Fettsäuren und fettlösliche Vitamine, etwa Vitamin E. Weniger empfehlenswerte gesättigte Fettsäuren sind insbesondere in tierischen Fetten enthalten. (...)

<https://www.gesundheit.gv.at/leben/ernaehrung/info/ernaehrungspyramide/ernaehrungspyramide>

### 3.18 Bulgaria: Prefer vegetable oils (sunflower, corn, olive) to animal fats (lard, butter) but consume them also in moderate amounts.

(...) Fats contain three groups of fatty acids in different ratio depending on the product - saturated fatty acids, monounsaturated fatty acids and polyunsaturated fatty acids. Fats of animal origin are usually solid, rich in saturated fatty acids and vegetable oils are usually liquid containing mainly monounsaturated and polyunsaturated fatty acids. The high intake of saturated fatty acids increases total cholesterol and the so called "bad" cholesterol - a risk factor for cardiovascular disease. Monounsaturated fatty acids are contained mainly in olive oil, peanut oil, rapeseed oil etc. They reduce "bad cholesterol" without reducing "good cholesterol" in blood and reduce the risk from cardiovascular disease. Limit total fat intake, especially animal fats. Replace animal fats with vegetable oils when cooking. Polyunsaturated fatty acids including essential fatty acids are supplied by vegetable and fish oils. The intake of vegetable oils (sunflower, corn, soy, rapeseed) reduces blood cholesterol. The intake of high amounts of polyunsaturated fatty acids, though, increases the risk for their oxidation resulting in cell-injuring products. (...)

Limit total fat intake, especially animal fat. Replace animal fats with vegetable oils when cooking.

<http://ncpha.government.bg/files/hranene-en.pdf>

### 3.19 Slovenia: Control fat intake and replace most saturated fats with unsaturated fats



Jejte čim manj maščob in izdelkov, ki vsebujejo maščobe (npr. mesne izdelke, namaze...)! Omejite količino zaužitega mesa in mesnih izdelkov! Izbirajte puste vrste mesa! Enkrat ali dvakrat na teden uvedite brezmesni dan.

<http://www.fao.org/3/az911o/az911o.pdf>

### 3.20 Finland : favour liquid vegetable oils. Favour rapeseed oil because of its versatile consistency of fatty acids

(...) All edible fats are high in energy and fat-soluble vitamins, including vitamins A, D and E. Vegetable oils and spreadable margarines made from them, spreads and "liquid margarines" mainly contain healthier unsaturated fat. However, they also contain high quantities of energy and should thus only be used in moderation.

Use a vegetable fat spread on your bread and vegetable oils.

The fats in your diet should mainly be soft in consistency, and the share of hard fats should be as low as possible. The best source of soft fats is vegetable oils and margarines with a high vegetable oil content, spreads and liquid vegetable fat products, or liquid margarines. The quality and quantity of these visible fats is easy to control. It is thus vital not to exclude them from your diet.

Have a thin layer of vegetable oil based margarine or spread on your bread. Add a small amount of oil-based dressing to your salads. In cooking and baking, you should use vegetable oil, margarines, vegetable oil spreads or liquid margarines. Rape seed oil is particularly highly recommended because of its versatile consistency of fatty acids. Fat blends that contain butter and milk fats and hard baking margarines are high in saturated fats, and so are hydrogenated vegetable fat, coconut fat, coconut milk and palm oil. Do not use them frequently. (...)

<https://www.ruokavirasto.fi/en/themes/healthy-diet/nutrients/fats/>

### 3.21 Greece: replace animal fat by vegetable oil/fat. Favour olive oil, or vegetable seed oils like sunflower or corn oil.

(...) Καταναλώνετε 4-5 μερίδες την ημέρα.

Καταναλώνετε ελαιόλαδο ως πρώτη επιλογή προστιθέμενου ελαίου τόσο στο μαγείρεμα όσο και στη σαλάτα.

Περιορίστε την κατανάλωση προστιθέμενων λιπών ζωικής προέλευσης, όπως το βούτυρο, και αντικαταστήστε τα με ελαιόλαδο, όπου είναι εφικτό.

Αποφεύγετε την κατανάλωση υδρογονωμένων λιπαρών (τρανς), τα οποία μπορεί να περιέχονται, κυρίως, σε βιομηχανοποιημένα προϊόντα, προϊόντα ζαχαροπλαστικής ή προϊόντα ταχυφαγείου. Ελέγξτε τις ετικέτες στις συσκευασίες των τροφίμων, πριν τα αγοράσετε.

Ως δεύτερη επιλογή μετά το ελαιόλαδο, μπορείτε να χρησιμοποιείτε άλλα έλαια φυτικής προέλευσης (σπορέλαια), π.χ., ηλιέλαιο, αραβοσιτέλαιο. Ωστόσο, αποφεύγετε την κατανάλωση φοινικέλαιου και βαμβακέλαιου, τα οποία χρησιμοποιούνται συχνά για το τηγάνισμα σε εστιατόρια/ ταχυφαγεία ή περιέχονται σε βιομηχανοποιημένα προϊόντα.

<http://www.diatrofikoiodigoi.gr/?page=diatrofikes-sistaseis>

### 3.22 Malta: favour vegetable oils such as olive, canola (rapeseed), sunflower or nut and linseed oils (for omega 3 content).

(...) Fats and oils

Choose mostly vegetable oils, such as olive, canola and sunflower.

Include foods rich in omega-3 fats such as fish, nuts and flaxseeds or their oils. (...)

<https://deputyprimeminister.gov.mt/en/health-promotion/documents/library/publications/healthy%20plate%20en.pdf>

### **3.23 Ireland: Fats, spreads and oils provide essential fats but use in very small amounts. Favour rapeseed, olive, canola (rapeseed), sunflower or corn oils.**

*(...) Fats, spreads and oils provide essential fats but use in very small amounts. Use as little as possible. All types of fats and oils are very high in calories but some contain better fats than others.*

*Choose mono or polyunsaturated reduced-fat or light spreads.*

*Saturated fats, found in hard fats, raise blood cholesterol and can increase risk of heart disease. Essential fats are found in vegetable oils, including rapeseed, olive, canola, sunflower and corn oils.*

*Choose rapeseed, olive, canola, sunflower or corn oils. (...)*

<https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/health-food-pyramid-images/fats-spreads-oils-food-pyramid-shelf-fact-sheets.pdf>

## **B. International and non EU countries dietary guidelines**

### **3.24 WHO factsheet on healthy diet**

*(...) Unsaturated fats (found in fish, avocado and nuts, and in sunflower, soybean, canola and olive oils) are preferable to saturated fats (found in fatty meat, butter, palm and coconut oil, cream, cheese, ghee and lard) and trans-fats of all kinds, including both industrially-produced trans-fats (found in baked and fried foods, and pre-packaged snacks and foods, such as frozen pizza, pies, cookies, biscuits, wafers, and cooking oils and spreads) and ruminant trans-fats (found in meat and dairy foods from ruminant animals, such as cows, sheep, goats and camels). (...) Fat intake, especially saturated fat and industrially-produced trans-fat intake, can be reduced by: (...)*

*replacing butter, lard and ghee with oils rich in polyunsaturated fats, such as soybean, canola (rapeseed), corn, safflower and sunflower oils;*

<https://www.who.int/news-room/fact-sheets/detail/healthy-diet>

### **3.25 WHO draft guidelines on total fats**

*(...) Fat consumed should be primarily unsaturated fatty acids, with no more than 10% of total energy intake coming from saturated fatty acids and no more than 1% of total energy intake coming from trans-fatty acids (strong recommendation)*

### **3.26 USA: use products made with oils higher in polyunsaturated and monounsaturated fat (e.g., canola, corn, olive, peanut, safflower, soybean, and sunflower)**

*(...) Oils are important to consider as part of a healthy dietary pattern as they provide essential fatty acids. Commonly consumed oils include canola, corn, olive, peanut, safflower, soybean, and sunflower oils. Oils also are naturally present in nuts, seeds, seafood, olives, and avocados. The fat in some tropical plants, such as coconut oil, palm kernel oil, and palm oil, are not included in the oils category because they contain a higher percentage of saturated fat than do other oils. Strategies to shift intake include cooking with vegetable oil in place of fats high in saturated fat, including butter, shortening, lard, or coconut oil. However, some foods, such as desserts and sweet snacks, that are prepared with oils instead of fats high in saturated fat are still high in added sugars, and are thus not a nutrient-dense food choice.*

*Cook and purchase products made with oils higher in polyunsaturated and monounsaturated fat (e.g., canola, corn, olive, peanut, safflower, soybean, and sunflower) rather than butter, shortening, or coconut or palm oils. (...)*

[https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary\\_Guidelines\\_for\\_Americans-2020-2025.pdf](https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf)

### 3.27 Canada: Foods that contain mostly unsaturated fat should replace foods that contain mostly saturated fat

(...) Health Canada recommends replacing foods that contain mostly saturated fat with foods that contain mostly unsaturated fat to promote cardiovascular health. The type of fat consumed over time is more important for health than the total amount of fat consumed. There is convincing evidence that lowering the intake of saturated fat by replacing it with unsaturated fat (that is, poly- or mono-unsaturated fat) decreases total and LDL-cholesterol. Elevated LDL cholesterol is a well-established risk factor for cardiovascular disease that has affected about 1 in 5 adult Canadians in 2012/2013. Replacing saturated fat with polyunsaturated fat can also lower the risk of cardiovascular disease. Further, limiting the intake of foods in which the fat is mostly saturated, while choosing foods in which the fat is mostly unsaturated is a common feature of patterns that have been shown to have beneficial effects on health. (...)

<https://food-guide.canada.ca/sites/default/files/artifact-pdf/CDG-EN-2018.pdf>

### 3.28 New Zealand : favour unsaturated fats

(...) (Cook) with unsaturated fats (canola, olive, rice bran or vegetable oil, or margarine) instead of saturated fats (butter, cream, lard, dripping, coconut oil) (...)

(...)The types of fat people consume affect their risk of cardiovascular disease. • Reducing saturated fat intake and partially replacing it with unsaturated fats, in particular polyunsaturated fats, is linked with a decreased risk of cardiovascular disease (Hooper et al 2015). • The evidence base underpinning these Guidelines Statements supports eating patterns that include plant- and marine-based fats, but that are low in saturated fat. • The recommended intake for saturated fat and trans-fats together is no more than 10 percent of total energy (NHMRC 2006; Nordic Council of Ministers 2014). (...)

<https://www.health.govt.nz/system/files/documents/publications/eating-activity-guidelines-new-zealand-adults-dec20.pdf>

### 3.29 United Kingdom: favour unsaturated oils

(...) Choose unsaturated oils and use in small amounts.

Choose unsaturated oils and spreads and eat in small amounts. Although some fat in the diet is essential, generally we are eating too much saturated fat. Unsaturated fats are healthier fats that are usually from plant sources and in liquid form as oil. This includes vegetable oil, rapeseed oil and olive oil; as well as spreads made from these oils. All types of fat are high in energy and should be limited in the diet. (...)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/742746/A\\_quick\\_guide\\_to\\_govt\\_healthy\\_eating\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742746/A_quick_guide_to_govt_healthy_eating_update.pdf)