

# Appendix 6: Fatty acid composition of different foods

Food Type	fat content	fatty acid composition	phospholipids composition	cholesterol	ester form (% total cholesterol)	fatty acid composition cholesterol ester	Reference
cow milk	3.69g/100g	not available	not available	25.63 mg/100g	32.7%	palmitic acid (23.64%) oleic acid (24%) myristic acid (9.44%) stearic acid (9.31%) palmitoleic acid (4.48%) linoleic acid (2.7%)	Gorban A.M.S, Izzeldin O.M., Study on cholesterol ester fatty acids in camel and cow milk lipid. International Journal of Food Science and Technology, 1999, 34, 229-234
cow milk	not available	oleic acid (70.6%) stearic acid (16.1%) dicosteternoic acid (6.3%) myristic acid (5.2%) arachdic acid (1.8%)	not available	not available	not available	not available	Floyd E. Kurtz, G. S. Jamieson, and George E. Holm. THE LIPIDS OF MILK: I. THE FATTY ACIDS OF THE LECITHIN-CEPHALIN FRACTION J. Biol. Chem. 1934 106: 717-724.
Camel milk (colostrums)	2.98g/100g	not available	not available	27.62 mg/100g	10-18%	not available	Gorban A.M.S, Izzeldin O.M., Study on cholesterol ester fatty acids in camel and cow milk lipid. International Journal of Food Science and Technology, 1999, 34, 229-234
Camel milk (mature)	3.48g/100g	not available	not available	31.32 mg/100g	26-39%	pelargonic acid (10.69%) decanoid acid (15.9%) palmitic acid (18,44%) oleic acid (11,59%) stearic acid (9.10%) undecylic acid (7.51%) palmitoleic acid (5.21%)	Gorban A.M.S, Izzeldin O.M., Study on cholesterol ester fatty acids in camel and cow milk lipid. International Journal of Food Science and Technology, 1999, 34, 229-234
Human milk (colostrum)	not available	not available	not available	22.8-23.70 mg/dl	17.8-24.6%	oleic acid (28.9-33.5%) palmitic acid (17.5-27.4%) linoleic acid (21.3-24%) stearic acid (10.3-10.9%) myristic acid (3.6-6.3%) palmitoleic acid (1.8-5.3%)	Bitman J., Wood D.L., Mehta N.R., Hamosh P., Hamosh M., Comparison of the cholesteryl ester composition of human milk from preterm and term mothers, J. Pediatr. Gastroenterol Nutr., Vol.5, No.5, 1986.
Human milk (mature)	not available	not available	not available	5.90-9.60 mg/dl	9-14.5%	oleic acid (30-37%) linoleic acid (26-33%) palmitic acid (9-12%) stearic acid (8-10%) palmitoleic acid (4.5-6%) myristic acid (2-2.4%) lauric acid (2.4-3.4%)	Bitman J., Wood D.L., Mehta N.R., Hamosh P., Hamosh M., Comparison of the cholesteryl ester composition of human milk from preterm and term mothers, J. Pediatr. Gastroenterol Nutr., Vol.5, No.5, 1986.
Egg yolk (Hen)	65.1 g/100g	oleic acid (44.05%) palmitic acid (27.8%) linoleic acid (16.09%) stearic acid (6.11%) palmitoleic acid (4.03%)	not available	34.4 mg/g solids	22.6%	not available	Awad A.C, Bennink M.R., Smith D.M., composition and functional properties of cholesterol reduced egg yolk, Poultry Science 76:649-653, 1997

Egg yolk (Hen)	not available	not available	not available	not available	not available	35% oleic acids 33% palmitic acid 12% linoleic acid 11% stearic acid	Kuksis A., yolk lipids. Biochim. Biophys Acta 1124:205-222, 1992
Egg (Hen)	not available	not available	phosphatidylcholine (72.8%) phosphatidylethanolamine (15%) lysophosphatidylcholine (5.8%) lysophosphatidylethanolamine (2.1%)	not available	not available	not available	D.N. Rhodes & CH Lea, phospholipids. On the composition of Hen's egg phospholipids, Biochem J vol 65: 526-533 (1957)
Egg yolk (ostrich)	37 g/100g	oleic acid (38.82%) palmitic acid (32.84%) palmitoleic acid (8.49%) linoleic acid (8.18%) stearic acid (5.57%) arachidonic acid (1.48%)	not available	4.81 g/100g	5%	not available	Sinagoglou V.J., Strati I.F., Miniadis-Meimaroglou S., lipid, fatty acid and carotenoid content of edible egg yolks from avian species: a comparative study. Food Chemistry 124 (2011) 971-977
Egg yolk (Quail)	27 g/100g	oleic acid (42.09%) palmitic acid (30.80%) palmitoleic acid (3.84%) linoleic acid (8.86%) stearic acid (6.43%) arachidonic acid (2.37%)	not available	4.96 g/100g	0.6%	not available	Sinagoglou V.J., Strati I.F., Miniadis-Meimaroglou S., lipid, fatty acid and carotenoid content of edible egg yolks from avian species: a comparative study. Food Chemistry 124 (2011) 971-977
Egg yolk (Goose)	33 g/100g	oleic acid (41.42%) palmitic acid (31.78%) palmitoleic acid (5.01%) linoleic acid (6.69%) stearic acid (4.84%) arachidonic acid (1.98%)	not available	4.28 g/100g	0%	not available	Sinagoglou V.J., Strati I.F., Miniadis-Meimaroglou S., lipid, fatty acid and carotenoid content of edible egg yolks from avian species: a comparative study. Food Chemistry 124 (2011) 971-977
Egg yolk (Duck)	37 g/100g	oleic acid (44.71%) palmitic acid (32.64%) palmitoleic acid (3.65%) linoleic acid (8.24%) stearic acid (2.27%) arachidonic acid (2.09%)	not available	3.77 g/100g	0%	not available	Sinagoglou V.J., Strati I.F., Miniadis-Meimaroglou S., lipid, fatty acid and carotenoid content of edible egg yolks from avian species: a comparative study. Food Chemistry 124 (2011) 971-977
Egg yolk (turkey)	32 g/100g	oleic acid (44.45%) palmitic acid (28.73%) palmitoleic acid (3.75%) linoleic acid (7.50%) stearic acid (6.07%) arachidonic acid (2.29%)	not available	5.11 g/100g	2.5%	not available	Sinagoglou V.J., Strati I.F., Miniadis-Meimaroglou S., lipid, fatty acid and carotenoid content of edible egg yolks from avian species: a comparative study. Food Chemistry 124 (2011) 971-977

pork liver	24-28g/100g	myristic acid (1%) palmitic acid (16-19%) stearic acid (9-10%) palmitoleic acid (2%) linoleic acid (10-11%) linolenic acid (0.5-1%)	not available	77-102mg/100g	not available	not available	Echarte M., Conchillo A., Ansorena D., Astiasaran I., Evaluation of the nutritional aspects and cholesterol oxidation products of pork liver and fish patés. Food Chemistry 86 (2004) 47-53
beef sausage	17g/100g	palmitic acid (23.7%) palmitoleic acid (5.4%) stearic acid (9.31%) oleic acid (43.4%) linoleic acid (14.3%)	not available	50.9mg/100g	not available	not available	Pereira N.R., Tarley C.R.T, Matsushita M., de Souza N.E. Proximate composition and fatty acid profile in brazilian poultry sausage. Journal of food composition and analysis (2000) 13, 915-920
turkey sausage	4.06g/100g	palmitic acid (24.5%) palmitoleic acid (6.03%) stearic acid (8.71%) oleic acid (37.9%) linoleic acid (14.4%)	not available	46mg/100g	not available	not available	Pereira N.R., Tarley C.R.T, Matsushita M., de Souza N.E. Proximate composition and fatty acid profile in brazilian poultry sausage. Journal of food composition and analysis (2000) 13, 915-920
chicken sausage	11.4g/100g	palmitic acid (25.2%) palmitoleic acid (6.81%) stearic acid (7.68%) oleic acid (41.6%) linoleic acid (9.60%)	not available	43.6mg/100g	not available	not available	Pereira N.R., Tarley C.R.T, Matsushita M., de Souza N.E. Proximate composition and fatty acid profile in brazilian poultry sausage. Journal of food composition and analysis (2000) 13, 915-920

Oil	fat content	fatty acid composition	phospholipid composition	Total sterol	Sterol ester	fatty acid composition sterol ester	Reference
Peanut oil	not available	Palmitic acid (7.4-12.5%) stearic acid (2.7-4.9%) oleic acid (41.3-67.4%) linoleic acid (13.9-35.4%) arachidic acid (1.2-1.9%)	phosphatidic acid phosphatidylcholine phosphatidylethanolamine phosphatidylglycerol phosphatidylinositol	900-2900 mg/kg	not available	not available	Pattee H., Bailey's Industrial Oil and Fat Products, Volumes 1-6 (6th Edition). Edited by Shahidi, Fereidoon © 2005 John Wiley & Sons. ISBN: 978-0-471-38460-1, Volume 2. chapter 9. Peanut oil section 2.9.6
Peanut oil	not available	not available	phosphatidylcholine (49%) phosphatidylethanolamine (16%) phosphatidylinositol (22%)	not available	not available	not available	Szuhaj I., Bailey's Industrial Oil and Fat Products, Volumes 1-6 (6th Edition). Edited by Shahidi, Fereidoon © 2005 John Wiley & Sons. ISBN: 978-0-471-38460-1, Volume 3. chapter 13. Lecithins: Section 3.13.2
Peanut oil	not available	not available	not available	5.09 µmol/g	46%	not available	Kalo P., Kuuranne T., Analysis of free and esterified sterols in fats and oils by flash chromatography, gas chromatography and electrosprayed tandem mass spectrometry. J. Chromatogr. A 935 (2001) 237-248
Rapeseed oil	not available	myristic acid (0.5%) palmitic acid (5.6%) stearic acid (2.1%) oleic acid (58.1%) linoleic acid (21.6%) linolenic acid (11.2%)	not available	not available	not available	myristic acid (3.1%) palmitic acid (17.5%) stearic acid (18.4%) oleic acid (30.9%) linoleic acid (20.5%) linolenic acid (7.6%)	Gordon M., Miller A.D. Development of Steryl Ester Analysis for the Detection of Admixtures of vegetable oils. JAOCS, Vol 74, no.5 (1997)
Rapeseed oil	not available	not available	not available	19.68 µmol/g	68%	not available	Kalo P., Kuuranne T., Analysis of free and esterified sterols in fats and oils by flash chromatography, gas chromatography and electrosprayed tandem mass spectrometry. J. Chromatogr. A 935 (2001) 237-248
Rapeseed oil	not available	not available	phosphatidylcholine (37%) phosphatidylethanolamine (29%) phosphatidylinositol (14%)	not available	not available	not available	Bailey's Industrial Oil and Fat Products, Volumes 1-6 (6th Edition). Edited by Shahidi, Fereidoon © 2005 John Wiley & Sons. ISBN: 978-0-471-38460-1, Volume 3. chapter 13. Lecithins
Sunflower oil	not available	palmitic acid (5.9%) stearic acid (2.3%) oleic acid (37%) linoleic acid (54.3%)	not available	not available	not available	not available	Gordon M., Miller A.D. Development of Steryl Ester Analysis for the Detection of Admixtures of vegetable oils. JAOCS, Vol 74, no.5 (1997)
Sunflower oil	not available	not available	phosphatidylcholine (14%) phosphatidylethanolamine (24%) phosphatidylinositol (13%) phosphatidic acid (7%)	not available	not available	not available	Szuhaj I., Bailey's Industrial Oil and Fat Products, Volumes 1-6 (6th Edition). Edited by Shahidi, Fereidoon © 2005 John Wiley & Sons. ISBN: 978-0-471-38460-1, Volume 3. chapter 13. Lecithins: Section 3.13.2

Sunflower oil	not available	not available	not available	7.93 µmol/g	37%	not available	Kalo P., Kuuranne T., Analysis of free and esterified sterols in fats and oils by flash chromatography, gas chromatography and electrospray tandem mass spectrometry. J. Chromatogr. A 935 (2001) 237-248
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