



JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FATS AND OILS

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PROPOSED DRAFT REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) :REVISION OF THE ESSENTIAL COMPOSITION OF SUNFLOWERSEED OILS

(Comments of India, Kenya and Turkey)

India

Appendix I

2.1: Product Definitions

Comment: We support Option 1.

Rationale: The definition proposed under option 2 is subjective and does not give an indication of the classification of regular, mid and high oleic acid.

3.1: GLC ranges of fatty acid composition (expressed as percentages)

Comment: We support Option 2, i.e amending ranges of oleic and linoleic acids in mid-oleic sunflower seed oil.

Kenya

Kenya supports Option 1 under "2.1 Product Definitions" with a couple of editorial modification sited below.

We also support Option 1 under "3.1 GLC ranges of fatty acid composition (expressed as percentages)". Option 1 amends ranges of oleic and linoleic acids in sunflowerseed oil.

Turkey

In a project conducted by "Vegetable Oil Industry Association of Turkey" in 2017, some sunflower seed varieties (3 regular and one HOSO) were planted in different locations of Southern Anatolia (Table 1) in order to determine the effect of climatic conditions on oleic acid percentages. The results of 2017 have been sent to eWG during the discussions.

The project study was repeated in 2018 and results are given below. Data obtained from Marmara region is also added.

Table 1: Seed types and plantation areas (2018)-Southern Anatolia

SEED TYPE	Oleic Acid Content (C18:1), %	Province	Latitude	Longitude
Limagrain* LG 5485	18,22	Adana/Çakallı	37.180351 (37°10'49.3"N)	35.084690 (35°05'04.9"E)
Limagrain LG 50.585	16,60	Adana/Hamzalı	36.871403 (36°52'17.1"N)	35.848812 (35°50'55.7"E)
Pioneer 64LC 108	37,71	Adana/Dedeler	37.036118 (37°02'10.0"N)	35.585011 (35°35'06.0"E)
Pioneer P64HH106	86,68	Adana/Çakallı	37.180351 (37°10'49.3"N)	35.084690 (35°05'04.9"E)

*High oleic type in the next field

Table 2: Fatty acid composition after harvesting (2018)-Southern Anatolia

	Limagrai n* LG 5485	Limagrai n LG 50.585	Pioneer 64LC 108	Codex Standard for Named Vegetable Oils	Pioneer P64HH106	Codex Standard for Named Vegetable Oils
Fatty Acid	Regular	Regular	Regular	High Oleic		
Caproic acid (C6:0)	ND	ND	ND	ND	ND	ND
Caprylic acid (C8:0)	ND	ND	ND	ND	ND	ND
Capric acid (C10:0)	ND	ND	ND	ND	ND	ND
Lauric acid (C12:0)	ND	ND	ND	ND-0,1	ND	ND
Miristic acid (C14:0)	0,06	0,06	0,07	ND-0,2	0,05	ND-0,1
Palmitic acid (C16:0)	5,39	5,34	5,93	5,0-7,6	4,66	2,6-5,0
Palmitoleic acid (C16:1)	0,15	0,13	0,21	ND-0,3	0,16	ND-0,1
Margaric acid (C17:0)	0,03	0,03	0,02	ND-0,2	0,03	ND-0,1
Heptadesenoic acid (C17:1)	0,04	0,03	0,01	ND-0,1	0,05	ND-0,1
Stearic acid (C18:0)	2,30	2,73	1,92	2,7-6,5	2,41	2,9-6,2
Oleic acid (C18:1)	58,12	31,25	51,47	14,0-39,4	77,82	75,0-90,7
Linoleic acid (C18:2)	32,49	59,19	39,07	48,3-74,0	13,27	2,1-17,0
Linolenic acid (C18:3)	0,05	0,07	0,04	ND-0,3	0,05	ND-0,3
Arachidic acid (C20:0)	0,21	0,22	0,17	0,1-0,5	0,23	0,2-0,5
Eikosenoic acid (C20:1)	0,20	0,15	0,19	ND-0,3	0,23	0,1-0,5
Eicosadienoic acid (C20:2)	ND	ND	ND	ND	ND	ND
Behenic acid (C22:0)	0,68	0,55	0,64	0,3-1,5	0,73	0,5-1,6
Dokosenoic acid (C22:1)	ND	ND	ND	ND-0,3	ND	ND-0,3
Lignoseriic acid (C24:0)	0,28	0,25	0,24	ND-0,5	0,29	ND-0,5
Nervonic acid (C24:1)	ND	ND	ND	ND	ND	ND

Table 3: Seed types and plantation areas (2018)-Marmara

SEED TYPE	Oleic Acid Content (C18:1), %	Province	Latitude	Longitude
Limagrain* LG 5485	18,22	Kırklareli /Babaeski	41.492639 41°29'33.5"N	27.177167 27°10'37.8"E
Limagrain LG 50.585	16,60	Kırklareli /Babaeski	41.492501 41°29'33.0"N	27.177005 27°10'37.2"E
Pioneer 64LC 108	37,71	Kırklareli /Babaeski	41.493001 41°29'34.8"N	27.177177 27°10'37.8"E
Pioneer P64HH106	86,68	Kırklareli /Babaeski	41.492866 41°29'34.3"N	27.177185 27°10'37.9"E

*High oleic type in the next field

Table 4: Fatty acid composition after harvesting (2018)-Marmara

	Limagrai n* LG 5485	Limagrain LG 50.585	Pioneer 64LC 108	Codex Standard for Named Vegetable Oils	Pioneer P64HH10 6	Codex Standard for Named Vegetable Oils
Fatty Acid	Regular	Regular	Regular	High Oleic		
Caproic acid (C6:0)	ND	ND	ND	ND	ND	ND
Caprilic acid (C8:0)	ND	ND	ND	ND	ND	ND
Capric acid (C10:0)	ND	ND	ND	ND	ND	ND
Lauric acid (C12:0)	ND	ND	ND	ND-0,1	ND	ND
Miristic acid (C14:0)	0.07	0.06	0.07	ND-0,2	0.05	ND-0,1
Palmitic acid (C16:0)	5.92	5.56	5.75	5,0-7,6	4.49	2,6-5,0
Palmitoleic acid (C16:1)	0.15	0.14	0.13	ND-0,3	0.17	ND-0,1
Margaric acid (C17:0)	ND	ND	ND	ND-0,2	ND	ND-0,1
Heptadesenoic acid (C17:1)	0.04	0.04	0.03	ND-0,1	0.05	ND-0,1
Stearic acid (C18:0)	2.53	3.31	2.6	2,7-6,5	2.61	2,9-6,2
Oleic acid (C18:1)	36.09	31.31	37.71	14,0-39,4	72.31	75,0-90,7
Linoleic acid (C18:2)	53.79	58.19	52.21	48,3-74,0	18.61	2,1-17,0
Linolenic acid (C18:3)	0.05	0.05	0.04	ND-0,3	ND	ND-0,3

Arachidic acid (C20:0)	0.2	0.24	0.2	0,1-0,5	0.24	0,2-0,5
Eikosenoic acid (C20:1)	0.17	0.15	0.17	ND-0,3	0.23	0,1-0,5
Eicosadienoic acid (C20:2)	ND	ND	ND	ND	ND	ND
Behenic acid (C22:0)	0.63	0.61	0.73	0,3-1,5	ND	0,5-1,6
Dokosenoic acid (C22:1)	ND	ND	ND	ND-0,3	ND	ND-0,3
Lignoseriic acid (C24:0)	0.26	0.24	0.26	ND-0,5	0.32	ND-0,5
Nervonic acid (C24:1)	ND	ND	ND	ND	ND	ND