



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON FATS AND OILS**

Twenty-Eighth Session

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PROPOSED AMENDMENT/REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999): INCLUSION OF HIGH OLEIC ACID SOYA BEAN OIL

(Comments of the United States)

Notes on Proposed Revisions to Current Standard:

Bold and underlined: amendment agreed to by all/majority of members of the electronic working group (consensus)

2. DESCRIPTION

2.1 Product definitions

Soya bean oil – high-oleic acid (**soybean oil – high-oleic acid**; high-oleic acid soya bean oil; high-oleic acid soybean oil) is produced from high-oleic acid oil-bearing seeds of varieties derived from soya beans (seeds of *Glycine max* (L.) Merr.).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

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

High-oleic acid soya bean oil must contain not less than 65 **percent** oleic acid (as a **percentage** of total fatty acids).

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples (expressed as percentage of total fatty acids)

Fatty acid	Soya bean oil (high-oleic acid)
C6:0	<u>ND</u>
C8:0	<u>ND-0.1</u>
C10:0	<u>ND-0.1</u>
C12:0	<u>ND-0.1</u>
C14:0	<u>ND-0.5</u>
C16:0	<u>2.5-8.0</u>
C16:1	<u>ND-0.1</u>
C17:0	<u>ND-0.8</u>
C17:1	<u>ND-1.5</u>
C18:0	<u>3.2-5.0</u>
C18:1	<u>65.0-87.0</u>
C18:2	<u>1.0-16.0</u>
C18:3	<u>1.0-6.0</u>

C20:0	<u>ND-1.0</u>
C20:1	<u>ND-1.0</u>
C20:2	<u>ND-0.1</u>
C22:0	<u>ND-0.7</u>
C22:1	<u>ND-0.4</u>
C22:2	<u>ND</u>
C24:0	<u>ND-0.5</u>
C24:1	<u>ND</u>

ND – not detectable, defined as $\leq 0.05\%$

APPENDIX TO CXS 210-1999 - OTHER QUALITY AND COMPOSITION FACTORS

3. CHEMICAL AND PHYSICAL CHARACTERISTICS

Table 2: Chemical and physical characteristics of crude vegetable oils

	Soya bean oil (high-oleic acid)
Relative density (x°C/water at 20°C)	<u>0.909-0.923</u> x=20°C
Apparent density (g/ml)	
Refractive index (ND 40°C)	<u>1.462-1.468</u>
Saponification value (mg KOH/g oil)	<u>188-192</u>
Iodine value	<u>75-95</u>
Unsaponifiable matter (g/kg)	<u>≤15</u>
Stable carbon Isotope ratio	

4. IDENTITY CHARACTERISTICS

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples as a percentage of total sterols

	Soya bean oil (high-oleic acid)
Cholesterol	<u>0.2-0.5</u>
Brassicasterol	<u>0.2-0.3</u>
Campesterol	<u>19.9-25.2</u>
Stigmasterol	<u>17.3-23.0</u>
Beta-sitosterol	<u>42.3-51.9</u>
Delta-5-avenasterol	<u>1.9-3.0</u>
Delta-7-stigmastenol	<u>0.6-2.5</u>
Delta-7-avenasterol	<u>0.5-1.5</u>
Others	<u>4.5-7.1</u>
Total sterols (mg/kg)	<u>2300-3850</u>

ND – Non-detectable, defined as ≤ 0.05%

Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples (mg/kg)

	Soya bean oil (high-oleic acid)
Alpha-tocopherol	<u>17-138</u>
Beta-tocopherol	<u>9-106</u>
Gamma-tocopherol	<u>89-1756</u>
Delta-tocopherol	<u>44-570</u>
Alpha-tocotrienol	<u>ND-39</u>
Gamma-tocotrienol	<u>ND</u>
Delta-tocotrienol	<u>ND</u>
Total (mg/kg)	<u>900-2000</u>

ND – Non-detectable.