Commission Regulation (EU) No 61/2011 of 24 January 2011 amending Regulation (EEC) No 2568/91 on the characteristics of olive oil and olive-residue oil and on the relevant methods of analysis

COMMISSION REGULATION (EU) No 61/2011

of 24 January 2011

amending Regulation (EEC) No 2568/91 on the characteristics of olive oil and olive-residue oil and on the relevant methods of analysis

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation)[(1)], and in particular Articles 113(1)(a) and 121(h) in conjunction with Article 4 thereof,

Whereas:

(1) Commission Regulation (EEC) No 2568/91[(2)] defines the physical and chemical characteristics of olive oils and olive-residue oils and the methods of analysis of those characteristics. Those methods and the limit values for the characteristics of oils need to be updated on the basis of the opinion of chemical experts and in line with the work carried out within the International Olive Council.

(2) In particular, since the chemical experts have concluded that the content of fatty acid ethyl esters (FAEEs) and fatty acid methyl esters (FAMEs) is a useful parameter of quality for the extra virgin olive oils, it is appropriate to include limit values for those esters as well as a method for the determination of their content.

(3) In order to allow a period of adjustment to the new standards, to give time for introducing the means of applying them and to avoid disturbance to commercial transactions, the amendments made by this Regulation should apply as from 1 April 2011. For the same reasons, provision should be made for olive oil and olive-residue oils that are legally manufactured and labelled in the Union or legally imported into the Union and released for free circulation before that date to be marketed until all stocks are used up.

(4) Regulation (EEC) No 2568/91 should therefore be amended accordingly.

(5) The measures provided for in this Regulation are in accordance with the opinion of the Management Committee for the Common Organisation of Agricultural Markets,

HAS ADOPTED THIS REGULATION:

Article 1

Regulation (EEC) No 2568/91 is amended as follows:

Changes to legislation: *There are currently no known outstanding effects for the Commission Regulation (EU) No 61/2011. (See end of Document for details)*

1) In Article 2(1), the following indent is added:

— for the determination of the content of waxes, fatty acid methyl esters and fatty acid ethyl esters by capillary gas chromatography, the method set out in Annex XX

2) In the summary of Annexes, the following is added:

Annex XX: Method for the determination of the content of waxes, fatty acid methyl esters and fatty acid ethyl esters by capillary gas chromatography.

3) Annex I is replaced by the text in Annex I to this Regulation.

4) Annex XX is added, as set out in Annex II to this Regulation.

Article 2

Products which have been legally manufactured and labelled in the Union or legally imported into the Union and released for free circulation before 1 April 2011 may be marketed until all stocks are used up.

Article 3

This Regulation shall enter into force on the third day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 1 April 2011.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 24 January 2011.

For the Commission

The President

José Manuel BARROSO

ANNEX I

‘ANNEXOLIVE OIL CHARACTERISTICSTotal isomers which could (or could not) be separated by capillary column.Or where the median defect is less than or equal to 3,5 and the fruity median is equal to 0.Oils with a wax content of between 300 mg/kg and 350 mg/kg are considered to be lampante olive oil if the total aliphatic alcohol content is less than or equal to 350 mg/kg or if the erythrodiol and uvaol content is less than or equal to 3,5 %.Oils with a wax content of between 300 mg/kg and 350 mg/kg are considered to be crude olive-residue oil if the total aliphatic alcohol content is above 350 mg/kg and if the erythrodiol and uvaol content is greater than 3,5 %.CategoryFatty acid methyl esters (FAMEs) and fatty acid ethyl esters (FAEEs)Acidity(%)(*)Peroxide indexmEq O2/kg(*)Waxesmg/kg(**)2-glyceril monopalmitate(%)Stigmastadienemg/kgDifference: ECN42 (HPLC) and ECN42(theoretical calculation)K232 (*)K270 (*)Delta-K (*)Organoleptic evaluationMedian defect (Md) (*)Organoleptic evaluationFruity median (Mf) (*)1.

Extra virgin olive oil

Σ FAME + FAEE ≤ 75 mg/kg or 75 mg/kg <Σ FAME + FAEE ≤ 150 mg/kg and (FAEE/FAME) ≤ 1,5≤ 0,8≤ 20≤ 250≤ 0,9 if total palmitic acid % ≤ 14 %≤ 0,10≤ 0,2≤ 2,50≤ 0,22≤ 0,01Md = 0Mf > 0≤ 1,0 if total palmitic acid % > 14 %2.

Virgin olive oil

—≤ 2,0≤ 20≤ 250≤ 0,9 if total palmitic acid % ≤ 14 %≤ 0,10≤ 0,2≤ 2,60≤ 0,25≤ 0,01Md ≤ 3,5Mf > 0≤ 1,0 if total palmitic acid % > 14 %3.

Lampante olive oil

—> 2,0—≤ 300≤ 0,9 if total palmitic acid % ≤ 14 %≤ 0,50≤ 0,3———Md > 3,5—≤ 1,1 if total palmitic acid % > 14 %4.

Refined olive oil

—≤ 0,3≤ 5≤ 350≤ 0,9 if total palmitic acid % ≤ 14 %—≤ 0,3—≤ 1,10≤ 0,16——≤ 1,1 if total palmitic acid % > 14 %5.

Olive oil composed of refined and virgin olive oils

—≤ 1,0≤ 15≤ 350≤ 0,9 if total palmitic acid % ≤ 14 %—≤ 0,3—≤ 0,90≤ 0,15——≤ 1,0 if total palmitic acid % > 14 %6.

Crude olive-residue oil

———> 350≤ 1,4—≤ 0,6————7.

Refined olive-residue oil

—≤ 0,3≤ 5> 350≤ 1,4—≤ 0,5—≤ 2,00≤ 0,20——8.

Olive-residue oil

—≤ 1,0≤ 15> 350≤ 1,2—≤ 0,5—≤ 1,70≤ 0,18——Other fatty acids content (%): palmitic: 7,5-20,0; palmitoleic: 0,3-3,5; heptadecanoic: ≤ 0,3; heptadecenoic: ≤ 0,3; stearic: 0,5-5,0; oleic: 55,0-83,0; linoleic: 3,5-21,0.Total: Delta-5,23-stigmastadienol+chlerosterol +beta-sitosterol+sitostanol+delta-5-avenasterol+delta-5,24-stigmastadienol.Oils with a wax content of between 300 mg/kg and 350 mg/kg are considered to be lampante olive oil if the total aliphatic alcohol content is less than or equal to 350 mg/kg or if the erythrodiol and uvaol content is less than or equal to 3,5 %.Oils with a wax content of between 300 mg/kg and 350 mg/kg are considered to be crude olive-residue oil if the total aliphatic alcohol content is above 350 mg/kg and if the erythrodiol and uvaol content is greater than 3,5 %.CategoryAcid contentTotal transoleic isomers(%)Total translinoleic + translinolenic isomers(%)Sterols compositionTotal sterols(mg/kg)Erythrodiol and uvaol(%)(**)Myristic(%)Linolenic(%)Arachidic(%)Eicosenoic(%)Behenic(%)Lignoceric(%)Cholesterol(%)Brassicasterol(%)stigmastenol(%)1.

Extra virgin olive oil

≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,2≤ 0,2≤ 0,05≤ 0,05≤ 0,5≤ 0,1≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 000≤ 4,52.

Virgin olive oil

≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,2≤ 0,2≤ 0,05≤ 0,05≤ 0,5≤ 0,1≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 000≤ 4,53.

Lampante olive oil

Changes to legislation: *There are currently no known outstanding effects for the Commission Regulation (EU) No 61/2011. (See end of Document for details)*

≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,2≤ 0,2≤ 0,10≤ 0,10≤ 0,5≤ 0,1≤ 4,0—≥ 93,0≤ 0,5≥ 1 000≤ 4,54.
Refined olive oil
≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,2≤ 0,2≤ 0,20≤ 0,30≤ 0,5≤ 0,1≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 000≤ 4,55.
Olive oil composed of refined and virgin olive oils
≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,2≤ 0,2≤ 0,20≤ 0,30≤ 0,5≤ 0,1≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 000≤ 4,56.
Crude olive-residue oil
≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,3≤ 0,2≤ 0,20≤ 0,10≤ 0,5≤ 0,2≤ 4,0—≥ 93,0≤ 0,5≥ 2 500> 4,57.
Refined olive-residue oil
≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,3≤ 0,2≤ 0,40≤ 0,35≤ 0,5≤ 0,2≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 800> 4,58.
Olive-residue oil
≤ 0,05≤ 1,0≤ 0,6≤ 0,4≤ 0,3≤ 0,2≤ 0,40≤ 0,35≤ 0,5≤ 0,2≤ 4,0< Camp.≥ 93,0≤ 0,5≥ 1 600> 4,5
Notes:

(a) The results of the analyses must be expressed to the same number of decimal places as used for each characteristic.

The last digit must be increased by one unit if the following digit is greater than 4.

(b) If just a single characteristic does not match the values stated, the category of an oil can be changed or the oil declared impure for the purposes of this Regulation.

(c) If a characteristic is marked with an asterisk (*), referring to the quality of the oil, this means the following:

— for lampante olive oil, it is possible for both the relevant limits to be different from the stated values at the same time,

— for virgin olive oils, if at least one of these limits is different from the stated values, the category of the oil will be changed, although they will still be classified in one of the categories of virgin olive oil.

(d) If a characteristic is marked with two asterisks (**), referring to the quality of the oil, this means that for all types of olive-residue oil, it is possible for both the relevant limits to be different from the stated values at the same time.’

ANNEX II

ANNEX XX

Method for the determination of the content of waxes, fatty acid methyl esters and fatty acid ethyl esters by capillary gas chromatography

1. PURPOSE

This method is for the determination of the content of waxes, fatty acid methyl and ethyl esters in olive oils. The individual waxes and alkyl esters are separated according to the number of carbon atoms. The method is recommended as a tool for distinguishing between olive oil and olive-pomace oil and as a quality parameter for extra virgin olive oils enabling the detection of fraudulent mixtures of extra virgin olive oils with lower quality oils whether they are virgin, lampante or some deodorised oils.

2. PRINCIPLE

Addition of suitable internal standards to the oil and fractionation by chromatography on a hydrated silica gel column. Recovery of the fraction eluted under the test conditions (with a lower polarity than that of the triacylglycerols) and direct analysis by capillary gas chromatography.

3. APPARATUS

3.1. **Erlenmeyer flask, 25 ml**.

3.2. **Glass column** for liquid chromatography, internal diameter 15 mm, length 30-40 cm, fitted with a suitable stopcock.

3.3. **Gas chromatograph** suitable for use with a capillary column, equipped with a system for direct, on-column injection comprising:

3.3.1. **Thermostat-controlled oven with temperature programming**.

3.3.2. **Cold injector** for direct on-column injection

3.3.3. **Flame ionisation detector and converter-amplifier**.

3.3.4. **Recorder-integrator** (Note 1) for use with the converter-amplifier (point 3.3.3), with a response time of not more than 1 s and a variable paper speed.

Note 1: Computerised systems may also be used where the gas chromatography data are entered through a PC.

3.3.5. **Capillary column, fused silica (for analysis of the waxes and methyl and ethyl esters)**, length 8-12 m, internal diameter 0,25-0,32 mm, internally coated with liquid phase (Note 2) to a uniform thickness of 0,10-0,30 μm.

Note 2: Suitable commercial liquid phases are available for this purpose such as SE52, SE54, etc.

3.4. **Microsyringe**, 10 μl, with hardened needle, for direct on-column injection.

3.5. **Electric shaker**.

3.6. **Rotary evaporator**.

3.7. **Muffle oven**.

3.8. **Analytical** balance for weighing to an accuracy of ± 0,1 mg.

3.9. Usual laboratory glassware.

4. REAGENTS

4.1. **Silica gel**, 60-200 μm mesh. Place the silica gel in the muffle oven at 500 °C for at least 4 h. Allow to cool and then add 2 % water in relation to the quantity of silica gel used. Shake well to homogenise slurry and keep in the desiccator for at least 12 h prior to use.

4.2. **n-hexane**, chromatography grade or residue grade (the purity must by checked).

WARNING – Fumes may ignite. Keep away from sources of heat, sparks or naked flames. Make sure the bottles are always properly closed. Ensure proper ventilation during usage. Avoid build-up of fumes and remove any possible fire risk, such as heaters or electric apparatus not manufactured from non-inflammable material. Pernicious if inhaled, because it may cause nerve cell damage. Avoid breathing in the fumes. Use a suitable respiratory apparatus if necessary. Avoid contact with eyes and skin.