

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda item 3.1 and 3.2

CX/MAS 24/43/3 Add.4 rev. 1

May 2024

ORIGINAL LANGUAGE ONLY

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

Forty-third Session

Budapest, Hungary

13 – 18 May 2024

METHODS OF ANALYSIS FOR ENDORSEMENT FROM CCSCH AND CCFO AND PERFORMANCE CRITERIA FOR METHODS FOR CERTAIN PROCESSED FRUITS AND VEGETABLES

Comments in reply to CL 2024/18-MAS

submitted by

*Australia, Chile, Ecuador, Egypt, Guatemala, Iraq, Peru, Philippines, United Arab Emirates
and GOED, IOC, MoniQA Association, NMLK*

Background

1. This document compiles comments received through the Codex Online Commenting System (OCS) in response to CL 2024/18-MAS issued in February 2024. Under the OCS, comments are compiled in alphabetical order.
2. The Annex includes comments proposing different methods of analysis and/or proposals only.

Explanatory notes on the appendix

3. The comments submitted through the OCS are hereby annexed and presented in tabulated format.

AUSTRALIA

METHODS FOR ENDORSEMENT SUBMITTED BY CCSC7

Based on the 'Replies from CCSC7 to the Questions from CCMAS42- Appendix I, Part A' we see this resolving most of the issues, however the CCSC7 answers suggests to Australia that we need in applicable cases two provisions one for the 'whole spice' and another for the 'cut / broken, ground / powdered spice'.

Further, we believe that in many instances minor amendments to the text for 'Provision' and 'Principle' may still be required e.g. where 'complementary' methods include calculations.

Australia suggests the replies from CCSC7 as provided in CX/MAS 24/43/3 Appendix I Part A would result in the following amendments to the commodity method tables on which the questions were based and given in CX/MAS 23/42/3 APPENDIX II for Ginger, Cloves, Dried Basil, Saffron, Dried or Dehydrated Chilli Pepper and Paprika, Dried small cardamom and Spices derived from dried fruits & berries (Part A – allspice, juniper berry & star anise) methods.

Dried or Dehydrated Ginger (CXS 343-2021); Dried Floral Parts – Cloves (CXS 344-2021); & Dried Basil (CXS 345-2021)

RETAIN Live Insect ISO 927 Visual Examination IV I

REMOVE Live Insect AOAC 960.51 Visual Examination IV

Standard for Dried or Dehydrated Chilli Pepper and Paprika (CXS 353-2022)

Live insect ISO 927 / REMOVE (AOAC 960.51) Visual Examination I

RETAIN Whole dead insect ISO 927 Visual examination I

REMOVE Whole dead insect AOAC 969.44 Flotation method IV

Insect fragments Add (whole spice) ISO 927 Visual examination counting I

ADD ((Insect fragments (For Powdered / pieces of spice)) AOAC 975.49 REMOVE (For powdered/pieces) Flotation method IV I

Draft Standard for spices derived from dried or dehydrated fruits and berries – small cardamom

In relation to the CX/MAS 24/43/3 Appendix I Part B methods of analysis for provisions in different spices and culinary herbs standards in o For the Draft Standard for spices derived from dried or dehydrated fruits and berries – small cardamom;

- Based on CCSC7 responses we may have two provisions in some places where method is different for the 'whole spice' and 'cut / broken, ground / powdered spice'.

- Some amendments to the text in the 'Provision and 'Principle' may be required where 'complementary' methods include calculations e.g., for Provision 'Total Ash *REMOVE "ON DRY BASIS"* (dry weight basis)' with principle 'Calculation from moisture and ash, Distillation and Gravimetry'.

- Light seeds – specifies method IS 1907:2023, which refers to IS 1797:2017. We suggest both be provided as complimentary methods i.e., 'IS 1907 & IS 1797'.

o For the Draft Standard for spices derived from dried or dehydrated fruits and berries - allspice, juniper berry and star anise; Methods of analysis for provisions in the Draft Standard for dried or dehydrated roots, rhizomes and bulbs – turmeric.

- Based on CCSC7 responses we may need two provisions in places where methods are different for the 'whole spice' and 'cut / broken, ground / powdered spice'.

- Some amendments to the text in the 'Provision and 'Principle' may be required where 'complementary' methods include calculations e.g., for Provision 'Total Ash *REMOVE "ON DRY BASIS"* (dry weight basis)' with principle 'Calculation from moisture and ash, Distillation and Gravimetry'.

METHODS FOR ENDORSEMENT SUBMITTED BY CCFO28

General comments

A number of new provisions and specifications have been added as per REP24/FO Appendix IX and note

that the CCMAS42 eWG review of Fats & Oils workable package, undertook a review of 11 provision methods related to this Proposed draft revision. With the table in CX/MAS 24/43/3 Appendix II we suggest making the information clearer and more concise with amendments including,

- for the 'Absorbency in ultra-violet' provision, separate into multiple line items,
- making methods consistent with the previous reviews of the Fats & Oil workable package,
- some changes to the table under 'OTHER QUALITY AND COMPOSITION FACTORS';
- and throughout some minor amendments to methods and principles text.

Proposed draft revision to the Standard for Olive Oils and Olive Pomace Oils (CXS 33-1981)

8. METHODS OF ANALYSIS AND SAMPLING

In CX/MAS 24/43/3 Appendix II 'Methods of analysis and sampling for provisions in Proposed draft revision to the Standard for Olive Oils and Olive Pomace Oils (CXS 33-1981)' that there is a complete list of methods under '8. METHODS OF ANALYSIS AND SAMPLING' and then under 'OTHER QUALITY AND COMPOSITION FACTORS; 3. METHODS OF ANALYSIS AND SAMPLING', an identical table of methods (corresponding to tables in REP24/FO Appendix IX). However, the section 'OTHER QUALITY AND COMPOSITION FACTORS' only covers the following characteristics.

1.1 Organoleptic characteristics

1.2 Moisture and volatile matter (g/100 g)

1.3 Insoluble impurities in light petroleum (g/100 g)

1.4 Absorbance in the ultraviolet region at 232 nm (expressed as K232)

1.5 Trace metals (mg/kg) – Iron and Copper

2.1 Relative density (

20) (20 °C/water at 20 °C)

2.2 Refractive index (20)

2.3 Saponification value (mg KOH/g)

2.4 Iodine value (Wijs method)

2.5 Unsaponifiable matter (g/kg)

Thus suggest the table of methods under 'OTHER QUALITY AND COMPOSITION FACTORS' should not replicate the complete set of Olive oils and olive pomace oils provision methods as tabled under '8. METHODS OF ANALYSIS AND SAMPLING', but instead just cover a shortened table of methods for the applicable 'other quality and compositional factors' characteristics listed above (see following table) and also include amendments indicated for consistency with the standard & previous CCMAS decisions.

With respect to the 'Methods of Analysis and Sampling' in CX/MAS 24/43/3 Appendix II, • Provision – 'Absorbency in ultra-violet' – a reviewer in CL 2022/60/OCS-MAS suggested 'The three proposed methods are not identical' however, all three methods are based on Italian Method NGD-C 40-1976, and are at different points of their review cycle, so we suggest they can be treated as 'identical'. As this method is proposed for three separate provisions / specifications in the standard we suggest the following table amendments for clarity.

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
<p>Replace this first row with the following three rows:</p> <p>Fats and oils and related products Olive oils and olive pomace oils Provision Absorbency in the ultraviolet region (K270) at 270/or 268 nm (expressed as K270/or K268) Method COI/T.20/Doc. No. 19 /ISO 3656 / AOCS Ch 5- 91 Principle Absorption in ultraviolet Type I</p> <p>Fats and oils and related products Olive oils and olive pomace oils Provision Variation of the specific extinction (ΔK) Method COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5- 91 Principle Calculation from Absorbency in the ultraviolet region (K270) Type I</p> <p>Fats and oils and related products Olive oils and olive pomace oils Provision Absorbance in the ultraviolet region at 232 nm (expressed as K232) Method COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5- 91 Principle Absorption in ultraviolet Type I</p>				
Olive oils and olive pomace oils	Acidity, free (acid value)	ISO 660 / AOCS Cd 3d-63 / COI/T.20/Doc. No 34	Titrimetry	I
<p>Provision – ‘Acidity, free (acid value)’, presents three ‘identical’ methods published by different SDOs, however within ISO 660 three methods (two titrimetric and one potentiometric) are provided. We suggest to be ‘identical’ methods requires nomination of a specific section in ISO 660, and provision method(s) in</p>				

Fats and oils and related products	Provision	Method(s)	Principle	Type
table would appear as 'ISO 660 Section 9.1 / AOCS Cd 3d- 63 / COI/T.20/Doc. No 34'.				
Olive oils and olive pomace oils	Halogenated solvents, traces	ISO 16035	Gas chromatography (FID)	II
Replace with Headspace GC-ECD				
Olive oils and olive pomace oils	Insoluble impurities in light petroleum	ISO 663	Gravimetry	I
Replace with Gravimetry, drying at 103 degrees Celsius.				
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I
Replace with ISO 3961 / AOAC 993.20 / AOCS Cd 1d-92 / NMKL 39				
Olive oils and olive pomace oils	Iron and copper	ISO 8294 / AOAC 990.05	AAS	II
Replace with AOAC 990.05 / ISO 8294 / AOCS Ca 18b-91 Replace with Atomic absorption Spectrophotometry (direct graphite furnace)				
Olive oils and olive pomace oils	Lead	Use performance criteria ^{1*}		
Provision – 'Lead' the method performance criteria would appear (as per CL 2024/08-MAS Appendix I for commodity 'Edible fats and oils') as follows, where we suggest the inclusion of 'FDA EAM Method 4.7', Principle – 'Microwave / ICP-MS' as an applicable method.				
Olive oils and olive pomace oils	Organoleptic characteristics	COI/T.20/Doc. no. 15	Panel test	I
Replace with Sensory analysis by a panel				
Olive oils and olive pomace oils	Peroxide value	ISO 3960 / AOCS Cd 8b-90	Titrimetry	I
		COI/T.20/Doc. No 35		IV

^{1*} ISO 12193; AOAC 994.02; and AOCS Ca 18c-91 are currently listed in CXS 234.

Fats and oils and related products	Provision	Method(s)	Principle	Type
<p>Provision – ‘Peroxide value’ While listing both Type I and Type IV are allowed, there should be a ‘compelling reason’. While it would appear the main difference between the method groups is use of ‘isooctane and glacial acetic acid’ as solvent in ‘AOCS Cd 8b-90 / ISO 3960 / NMKL 158’ versus Chloroform in ‘COI/T.20/Doc. No 35’. If the reason for the Type IV inclusion is to retain the use of Chloroform, Australia would not support the Type IV method inclusion, and to maintain consistency with similar matrices after the F&O workable package reviews recommend methods ‘AOCS Cd 8b-90 / ISO 3960 / NMKL 158’ as Type I.</p> <p>replace with ISO 3960 / AOCS Cd 8b-90/ NMKL 158</p> <p>Replace with Titrimetry (Colorimetric)</p>				
Olive oils and olive pomace oils	Unsaponifiable matter	ISO 3596 / AOCS Ca 6b-53	Gravimetry	I
Replace with Gravimetry, drying at 103 degrees Celsius and titrimetry (colorimetry)				
Olive oils and olive pomace oils	Wax content	COI/T.20/Doc. no. 28	Gas chromatography (FID)	II
		AOCS Ch 8-02		III
Replace with Separation and Gas chromatography (FID)				

Proposed draft amendment/revision of the Standard for fish oils (CXS 329-2017) : inclusion of calanus oil

8. METHODS OF ANALYSIS AND SAMPLING

Commodity	Provision	Method	Principle	Type
Fish oil	Wax content	AOCS Ch 8-02	Gas Chromatography	IV
<p>Provision - ‘Wax content’ in ‘Fish oil has been proposed. A similar provision for ‘Olive oils and olive pomace oils’ includes COI/T.20/Doc. no. 28 (as Type II), however the COI method ‘Purpose’ specifically states ‘in olive oils’, so not applicable to ‘Fish oil’. We note the CCFO EWG Chair was encouraged to further investigate the use of method ISO/TS 23647:2010 for wax esters and it does have a similar principle but specifically states for ‘vegetable fats and oils’. Plus, the validation for AOCS Ch 8-02 only includes olive oil and other vegetable oil mixtures, so nomination as Type IV appears appropriate. As the method involved a separation of the wax fraction by column chromatography followed by GC(FID) analysis, we recommend ‘Principle’ as amended in table below.</p> <p>Replace with Separation and Gas chromatography (FID)</p>				

Performance criteria for selected processed fruits and vegetables

General Comments

Considering the recommendations in CX/MAS 24/43/3 Add.2,

- Australia supports removal of the 'Calcium' method performance criteria where the relevant commodity standard and a general reference to CXS 192 does not set a concentration limit.
- Support the endorsement of the method performance criteria in Appendix I (after removal as indicated in the previous dot point).

Specific Comments

- With the inclusion of the 'Applicable methods' based on those currently assigned in CXS 234, we believe the Appendix I table would appear as follows. *from comment #167 - 170).

Performance criteria for selected processed fruits and vegetables

Commodity	Provision	Codex Std. CXS-	ML (mg/kg)	Method performance criteria					
				Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSD _R) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria
Pickled cucumbers	Calcium	115	250	197 – 302	25	50	13.9%	90 – 107	
We noted in the Standard for Pickled Cucumbers (CXS 115) specifies '4.2 Firming Agents Calcium chloride, lactate and gluconate} 250 mg/kg singly or in combination' but we believe should state '250 mg/kg singly or in combination, of the final product calculated as total Ca'.									
Preserved tomatoes	Calcium	013							
Canned citrus fruits	Calcium	254							
Certain canned vegetables	Calcium	297							
Citrus Marmalade	Calcium	296							
Delete rows									

CHILE

METHODS FOR ENDORSEMENT SUBMITTED BY CCSC

Draft Standard for spices derived from dried or dehydrated fruits and berries – small cardamom

Provision	Method	Principle	Type
Moisture	ISO 939	Distillation	I
according to method and classification. It is suggested to include the AOAC 941.11 method that has the same principle (distillation), AOAC is requested to evaluate its equivalence with the proposed ISO 939 method.			
Total Ash, on dry basis	ISO 939 and ISO 928	Distillation and Gravimetry	
according to method and classification			
Acid Insoluble Ash, on dry basis	ISO 939 and ISO 930	Distillation and Gravimetry	I
according to method and classification			
Volatile Oil on dry basis	ISO 939 and ISO 6571	Distillation followed by Volumetry	I
according to method and classification			
Extraneous Matter (included Immature and shrivelled capsules)	ISO 927	Visual Examination Gravimetry	I
To avoid confusion, it is suggested to include the provision of Immature and shriveled capsules in parentheses and avoid duplicating concepts. It is agreed to classify Type I.			
Foreign Matter (from animals: Insect defiled/infested, Mammalian or/and Other excreta and from non-animals: Mould visible)	ISO 927	Visual Examination followed by and Gravimetry	I
delete			
According to ISO 927, insects are part of foreign matter, which is why they could not be classified as type I.			
Extraneous Matter from waste plan: Immature and shrivelled capsules	ISO 882-1	Visual Examination followed by and Gravimetry	II or III
according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, ISO 882-1 should be approved as type II or III.			
Foreign Matter from animals: Mammalian or/and Other excreta	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual) MPM: V-8. Spices	Visual Examination followed by and Gravimetry	II or III

	https://www.fda.gov/food/laboratory-methods-food/mpm-v-8-spices-condiments-flavors-and-crude-drugs		
according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, Method V-8 FDA should be approved as type II or III.			
According to ISO 927, insects are part of foreign matter, which is why they could not be classified as type I.			
Extraneous Matter from waste plan: Empty and malformed capsules	ISO 882-1	Visual Examination followed by and Gravimetry	II o III
according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, ISO 882-1 should be approved as type II or III.			
Whole insect live/dead	ISO 927 (For whole) (is for commodity or provision this indication?)	Visual examination and gravimetry	I
	There cannot be 2 type I methods for the same provision and merchandise, so it must be clarified whether the mention in the ISO 927 (For Whole) refers to commodity for Whole or to Whole insect live/died		
	AOAC 975.49 (For powdered/pieces) (is for commodity or provision this indication?)	Floatation and gravimetry	I
	There cannot be 2 type I methods for the same provision and merchandise, so it must be clarified whether the mention in the AOAC 975.49 (For powdered/pieces) refers to Smalll cardamon for For powdered/pieces or to For powdered/pieces of Whole insect live/died.		
Light seeds	IS 1907*	Visual examination and gravimetry	III
according to method and classification			

*IS 1907 is a method Indian standard.

Draft Standard for spices derived from dried or dehydrated fruits and berries -allspice, juniper berry and star anise

Commodity	Provision	Method	Principles	Type
Allspice Juniper berries Star anise	Moisture	ISO 939	Distillation	I
	Type : according to method and classification			
	Total ash on dry basis	ISO 939 and ISO 928	Distillation and Gravimetry.	I
	Type : according to method and classification			
	Acid- insoluble on dry basis	ISO 939 and ISO 930	Distillation and Gravimetry	I
	Type : according to method and classification			
	Volatile oils on dry basis	ISO 939 and ISO 6571	Distillation and volumetry	I
	Type : according to method and classification			
	Extraneous matter	ISO 927	Visual examination and Gravimetry	I
	Type : according to method and classification			
	Foreign matter (Whole dead insects and live insects, insects fragments, insect defiled and mould visible)	ISO 927	Visual examination and gravimetry	I
	Type : To avoid confusion, it is suggested to include the provision of insects in parentheses and avoid duplicating concepts. It is agreed to classify Type I.			
	Type : Is foreing matter			
	Foreing Matter from animals: Mammalian or/and Other excreta	MPM V-8 Spices, Condiments, Flavors and Crude Drugs MPM: V-8. Spices, Condiments, Flavors, and Crude Drugs FDA	Visual examination and gravimetry	II or III
	Type : according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, Method V-8 FDA should be approved as type II or III.			
Type : Is foreing matter				
Type : Is foreing matter				

		AOAC 975.49 (For powdered/pieces)	Flotation	II o III
	Type : Commodity: Allspice, Juniper berries, Star anise according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, AOAC 974.49 should be approved as type II or III. remove the word "method" from the principle. clarify if (For powdered/pieces) is for provision or commodity			
	Type : Is foreing matter			
Rodent hair		AOAC 965.40	Flotation	II o IIII
	Type : Commodity: Allspice, Juniper berries, Star anise according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, AOAC 965.40 should be approved as type II or III.			

Draft Standard for dried or dehydrated roots, rhizomes and bulbs - turmeric

Parameter	Method	Principle	Type
Moisture	ISO 939	Distillation	I
Type: Commodity: tumeric according to method and classification			
Total Ash on dry basis	ISO 939 and ISO 928	Distillation and gravimetry	I
Type: Commodity: tumeric according to method and classification			
Acid Insoluble Ash on dry basis	ISO 939 and ISO 930	Distillation and gravimetry	I
Type: Commodity: tumeric according to method and classification			
Curcuminoids content on dry basis (Colouring power)	ISO 2825 and ISO 5566	Spectrophotometry	I
Type: Commodity: tumeric according to method and classification			
Extraneous Matter	ISO 927	Visual examination and gravimetry	I
Type: Commodity: tumeric according to method and classification			
Foreign Matter (Whole insects Live /dead, Insect defiled, Mammalian or/and Other excreta, mould visible)	ISO 927	Visual examination and gravimetry	I
Type: Commodity: tumeric according to ISO 927, are considered foreign matter			
Type: Commodity: Tumeric according to ISO 927, are considered foreign matter			

	AOAC 975.49 (For powdered/ pieces)	Floatation followed by gravimetry	
Method: Commodity: Tumeric Parameter: Whole insects Live /dead Method: AOAC 975.49 (For powdered/ pieces) Principle: Visual Examination and Gravimetry Type: I according to ISO 927, are considered foreign matter			
Foreing Matter from animals: Mammalian or/and Other excreta	Method V-8 Spices, Condiments, Flavours and Crude Drugs (Macroanalytical Procedure Manual) MPM: V-8. Spices https://www.fda.gov/food/laboratory-methods-food/mpm-v-8-spices-condiments-flavors-and-crude-drugs	Visual examination gravimetry	II or III
Type: Commodity: Tumeric according to ISO 927, are considered foreign matter, so if ISO 927 is already approved, Method V-8 FDA should be approved as type II or III.			
Type: Commodity: Tumeric according to method and classification			

METHODS FOR ENDORSEMENT SUBMITTED BY CCFO

[Proposed draft revision to the Standard for Olive Oils and Olive Pomace Oils \(CXS 33-1981\)](#)

8. METHODS OF ANALYSIS AND SAMPLING

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
Type : according to method and classification				
Olive oils and olive pomace oils	Acidity, free (acid value)	ISO 660 / AOCS Cd 3d-63 / COI/T.20/Doc. No 34	Titrimetry	I
Type: according to method and classification				
Olive oils and olive pomace oils	(alpha with simbol)-tocopherol	ISO 9936	HPLC (UV or FLD)	II
		Type : Commodity: olive oils and olive pomace oils according to method and classification		
		AOCS Ce 8-89	HPLC (UV or FLD)	III
Olive oils and olive pomace oils	Difference between the actual and theoretical ECN 42 triglyceride content	COI/T.20/Doc. No. 20 and COI/T.20/Doc. No 33	HPLC (Analysis of triglycerides) by HPLC and by GC followed by calculation (fatty acids)	I
Type: Commodity: Olive oils and olive pomace oils according to method and classification				

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	1,2 Diglycerides	COI/T.20/Doc. No 32 ²	Gas chromatography (FID)	II
		Type: according to method and classification		
Olive oils and olive pomace oils	Erythrodiol + uvaol	COI/T.20/Doc. No 26	gas chromatography (FID)	II
Type: according to method and classification				
Olive oils and olive pomace oils	Fatty acid composition	COI/T.20/Doc. No 33	Gas chromatography (FID) of methyl esters	II
		Type: according to method and classification		
		AOCS Ce 2-66 and AOCS Ch 2-91 / Ce 1h-05	Gas chromatography (FID) of methyl esters	III
		Type: according to method and classification		
Olive oils and olive pomace oils	2-glyceryl monopalmitate percentage	COI/T.20/Doc. No 23	Gas chromatography (FID)	II
Type: according to method and classification				
Olive oils and olive pomace oils	Fatty acid ethyl ester content	COI/T.20/Doc. No 28	Gas chromatography (FID)	II
Type: according to method and classification				
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I
Type: according to method and classification				
Olive oils and olive pomace oils	Iron and copper	ISO 8294 / AOAC 990.05	GFAAS	II
Principle: according to method and classification. Principle is Graphite Furnace Atomic ABSORPTION				
Olive oils and olive pomace oils	Organoleptic characteristics	COI/T.20/Doc. no. 15	Panel test	I
Type: according to method and classification				
Olive oils and olive pomace oils	Peroxide value	ISO 3960 / AOCS Cd 8b-90	Titrimetry	I
		Type: according to method and classification		
		COI/T.20/Doc. No 35	Titrimetry	III
		Type: Considered Type III -The intercoparation of validation of method COI/T.20 Doc. No 35 results is accordance with purpose: RSDr(%) is 12% and RSDr(%) 1,4% and considered olive oil, extra virgin olive oil and mix olive oil and others vegetaals oils.		

² This method is retained pending review in CCFO29 and CCFO30. For background, refer to [REP24/FO](#) paras 83 and 84.

Fats and oils and related products	Provision	Method(s)	Principle	Type	
Olive oils and olive pomace oils	Relative density	ISO 6883 / AOCS Cc 10c-95	Pycnometry	I	
Type: validated for coconut, palm and rapeseed oil					
Olive oils and olive pomace oils	Saponification value	ISO 3657 / AOCS Cd 3-25	Titrimetry	I	
Type: validated for coconut, palm, MCT and rapeseed oil					
Olive oils and olive pomace oils	4a-desmethylsterol and total sterol content	COI/T.20/Doc. No 26	Gas chromatography (FID)	II	
Type: according to method and classification					
Olive oils and olive pomace oils	Stigmastadienes	COI/T.20/Doc. no. 11	Gas chromatography (FID)	II	
		Type: according to method and classification			
		ISO 15788-1	Gas chromatography (FID)	III	
		Type : No comments			
		AOCS Cd 26-96	Gas chromatography (FID)	III	
		ISO 15788-2	HPLC	III	
Olive oils and olive pomace oils	<i>trans</i> Fatty acids content	COI/T.20/Doc no. 33	Gas chromatography (FID) of methyl esters	II	
		ISO 12966-2 and ISO 12966-4		III	
		AOCS Ce 2-66 and AOCS Ce 1h-05		III	
Olive oils and olive pomace oils	Unsaponifiable matter	ISO 3596 / AOCS Ca 6b-53	Gravimetry	I	
Olive oils and olive pomace oils	Wax content	COI/T.20/Doc. no. 28	Gas chromatography (FID)	II	
		AOCS Ch 8-02		III	
Olive oils and olive pomace oils	Sampling	ISO 5555 and ISO 661			

OTHER QUALITY AND COMPOSITION FACTORS

3. METHODS OF ANALYSIS AND SAMPLING

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
Type : according to method and classification				
Olive oils and olive pomace oils	Acidity, free (acid value)	ISO 660 / AOCS Cd 3d-63 / COI/T.20/Doc. No 34	Titrimetry	I
Type : according to method and classification				
Olive oils and olive pomace oils	Alpha-tocopherol	ISO 9936	HPLC (UV	II
		AOCS Ce 8-89	HPLC (UV	III
		Type : according to method and classification		
Olive oils and olive pomace oils	Difference between the actual and theoretical ECN 42 triglyceride content	COI/T.20/Doc. no. 20 and COI/T.20/Doc. No 33	HPLC Differential refractometer detector by Analysis of triglycerides) and GC (FID) by fatty acids by followed by calculation	I
Type: according to method and classification. the principle of the method is clarified regarding the detectors used				
Olive oils and olive pomace oils	Erythrodiol + uvaol	COI/T.20/Doc. No 26	chromatography (FID)	II
Type : according to method and classification				
Olive oils and olive pomace oils	Fatty acid composition	COI/T.20/Doc. No 33	Gas chromatography (FID) of methyl esters	II
		Type : according to method and classification		
		AOCS Ce 2-66 and AOCS Ch 2-91 / Ce 1h-05	Gas chromatography (FID) of methyl esters	III
Type : according to method and classification				
Olive oils and olive pomace oils	2-glyceryl monopalmitate percentage	COI/T.20/Doc. No 23	Gas chromatography (FID)	II
Type : according to method and classification				
Olive oils and olive pomace oils	Fatty acid ethyl ester content	COI/T.20/Doc. No 28	Gas chromatography (FID)	II
Type : according to method and classification				
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I

Fats and oils and related products	Provision	Method(s)	Principle	Type	
Type : according to method and classification					
Olive oils and olive pomace oils	Iron and copper	ISO 8294 / AOAC 990.05	GFAAS	II	
Principle : according to method and classification. Principle is Graphite Furnace Atomic Absorption					
Olive oils and olive pomace oils	Organoleptic characteristics	COI/T.20/Doc. No. 15	Panel test	I	
Type : according to method and classification					
Olive oils and olive pomace oils	Peroxide value	ISO 3960 / AOCS Cd 8b-90	Titrimetry	I	
		Type : according to method and classification			
		COI/T.20/Doc. No 35	Titrimetry	IV	
		Type : according to method and classification			
Olive oils and olive pomace oils	Pyropheophytin "a"	ISO 29841 ³	HPLC UV/VIS or FLD	II	
Olive oils and olive pomace oils	Relative density	ISO 6883 / AOCS Cc 10c-95	Pycnometry	I	
Type : Method validated for coconut, palm and rapeseed oil, not in olive oils					
Olive oils and olive pomace oils	Refractive index	ISO 6320 / AOCS Cc 7-25	Refractometry	II	
Type : according to method and classification					
Olive oils and olive pomace oils	Saponification value	ISO 3657 / AOCS Cd 3-25	Titrimetry	I	
Type : Method validated for coconut, palm, MCT and rapeseed oil, not in olive oils					
Olive oils and olive pomace oils	4a-desmethylsterol and total sterol content	COI/T.20/Doc. No 26	Gas chromatography (FID)	II	
Type : according to method and classification					
Olive oils and olive pomace oils	Stigmastadienes	COI/T.20/Doc. no. 11	Gas chromatography (FID)	II	
		Type : according to method and classification. Methods for containing low concentrations of these hydrocarbons, particularly in virgin olive oils and crude olive pomace oil.			
		AOCS Cd 26-96	Gas chromatography (FID)	III	
		Type : according to method and classification			
		ISO 15788-2	HPLC –UV detector	III	
		Principle : according to method and classification Type : according to method and classification			

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	<i>trans</i> Fatty acids content	COI/T.20/Doc no. 33	Gas chromatography (FID) of methyl esters	II
		Type : according to method and classification		
		AOCS Ce 2-66 and AOCS Ce 1h-05	Gas chromatography (FID) of methyl esters	III
		Type : according to method and classification		
Olive oils and olive pomace oils	Unsaponifiable matter	ISO 3596 / AOCS Ca 6b-53	Gravimetry	I
Type : validated for soja, fish, tallow and rapeseed crude oil				
Olive oils and olive pomace oils	KEEP WAX CONTENTE FOR COI/T.20/Doc. No. 28 / AOCS Ch 8-02 DELETE WAX CONTENT FOR AOCS CH8 02	COI/T.20/Doc. no. 28 / AOCS Ch 8-02	KEEP Gas chromatography (FID) FOR COI/T.20/Doc. No. 28 / AOCS Ch 8-02 DELETE WAX CONTENT AOCS CH 8 02	II
		Type: The methods are equivalent, it is suggested to place both in equal and type II conditions. AOCS Ch 8-02/ COI/T.20/Doc.mo.28, type II		
			KEEP Gas chromatography (FID) FOR COI/T.20/Doc. No. 28 / AOCS Ch 8-02 DELETE WAX CONTENT AOCS CH 8 02	
Olive oils and olive pomace oils	Sampling and preparation of test sample	ISO 5555 and ISO 661		
Type : According with sampling method for olive oils ans olive pomace oils. ISO 5555 is for sampling and ISO 661 for preparation of test sample.				

[Proposed draft amendment/revision of the Standard for fish oils \(CXS 329-2017\) : inclusion of calanus oil](#)

8. METHODS OF ANALYSIS AND SAMPLING

Commodity	Provision	Method	Principle	Type
Fish oil	Wax content	AOCS Ch 8-02	Gas Chromatography	¿IV?

Type: validated for extra virgin olive oil and mixture with other vegetable oils, does not present validation for fish oil. Its classification as type IV must be evaluated or one more suitable for the intended purpose must be sought because the characteristics of vegetable and animal oil differ significantly in their composition.

Performance criteria for selected processed fruits and vegetables

Commodity	Provision	Codex Std. ³ CXS-	ML (mg/kg)	Method performance criteria					
				Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSD _R) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria
Jams, jellies, and marmalades	Benzoic Acid	192	1000	830 – 1170	100	200	11.3%	95 – 105	ISO 5518, NMKL 124
Pickled cucumbers	Benzoic Acid	115	1000	830 – 1170	100	200	11.3%	95 – 105	NMKL 124
Mango chutney	Benzoic Acid	160	250	197 – 302	25	50	13.9%	90 – 107	ISO 5518, NMKL 124
Coconut milk and coconut cream	Benzoic Acid	240	1000	830 – 1170	100	200	11.3%	95 – 105	ISO 5518, NMKL 124
Canned strawberries	Calcium	062	350	280 – 420	35	70	13.2%	90 – 107	AOAC 968.31, NMKL 153
Pickled cucumbers	Calcium	115	250	197 – 302	25	50	13.9%	90 – 107	AOAC 968.31, NMKL 153
Preserved tomatoes	Calcium	013	A requirement ML must be indicated in order to establish a performance criterion for the method.	¿?	¿?	¿?	¿?	¿?	The previous regulations indicated the methods:AOAC 968.31, NMKL 153

³ Codex Standard listed to facilitate review and should be removed from the final numeric performance criteria table.

Commodity	Provision	Codex Std. ³ CXS-	ML (mg/kg)	Method performance criteria					
				Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSD _R) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria
Canned citrus fruits	Calcium	254	A requirement ML must be indicated in order to establish a performance criterion for the method.	¿?	¿?	¿?	¿?	¿?	The previous regulations indicated the methods:AOAC 968.31, NMKL 153
Certain canned vegetables	Calcium	297	A requirement ML must be indicated in order to establish a performance criterion for the method.	¿?	¿?	¿?	¿?	¿?	The previous regulations indicated the methods:AOAC 968.31, NMKL 153
Citrus Marmalade	Calcium	296	A requirement ML must be indicated in order to establish a performance criterion for the method.	¿?	¿?	¿?	¿?	¿?	The previous regulations indicated the methods:AOAC 968.31, NMKL 153
Jams, Jellies, and Marmalades	Sorbates	296	1000	830 – 1170	100	200	11.3%	95 – 105	no method example suggestion made

Commodity	Provision	Codex Std. ³ CXS-	ML (mg/kg)	Method performance criteria					
				Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSD _R) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria
Pickled Cucumbers	Sorbates	115	1000	830 – 1170	100	200	11.3%	95 – 105	no method example suggestion made
Processed Fruits and Vegetables	Tin	193	250	197 – 302	25	50	13.9%	90 – 107	AOAC 980.19
Table Olives	Tin	066	250	197 – 302	25	50	13.9%	90 – 107	AOAC 980.19

ECUADOR

Se revisa el documento CX/MAS 24/43/3 Add.2 y se considera mantener la clasificación del método para el calcio en los siguientes productos: los tomates en conserva (CXS 13-1981), los cítricos en conserva (CXS 254-2007), determinadas hortalizas en conserva (CXS 297-2009) y la mermelada de cítricos (CXS 296-2009).

Se considera ratificar los criterios de rendimiento que figuran en el Apéndice I en CX/MAS 24/43/3 Add.2.

EGYPT

Egypt reciprocates the work which done in the document & agrees on the endorsement of the mentioned methods.

GOED

GOED supports the endorsement by CCMAS of AOCS Ch 8-02 for the measurement of wax content in calanus oil.

GUATEMALA

METHODS FOR ENDORSEMENT SUBMITTED BY CCSCCH

Métodos de análisis para las disposiciones del Proyecto de norma para las especias derivadas de bayas y frutos secos o deshidratados: cardamomo pequeño

Los métodos descritos en la tabla cumplen con lo establecido previamente, siendo métodos aptos para asegurar la calidad de las semillas de cardamomo.

Se recomienda aceptar los métodos descritos en la tabla ya que al ser por cromatografía de gases y cromatografía líquida es una oportunidad para la actualización de las metodologías utilizadas a nivel nacional.

• Así mismo, se sugiere por parte del Comité Técnico de Especies y Hierbas Aromáticas (CCSCH) agregar los siguientes criterios de selección,

según se indican en la Norma Guatemalteca COGUANOR 34 152 CARDAMOMO, página 8, cuadro 5:.

***IS 1907 es un método de análisis basado en la norma de la India.**

Para el análisis de Estigmastadienos, se recomienda especificar el detector recomendado en el método ISO 15788-2, ya que solamente refiere que es un método de Cromatografía líquida, para facilitar la elección del método a utilizar.

Criterios de rendimiento para frutas y hortalizas elaboradas seleccionadas

Se recomienda la aclaración de la decisión del porcentaje aceptado de recuperación, ya que en la mayoría de métodos para alimentos se cuenta con un rango entre 60-120%, ya que es más reducido al estar entre 95 y 110% y con esto seleccionar un método que cumpla con los criterios propuestos en la tabla anterior.

IOC

METHODS FOR ENDORSEMENT SUBMITTED BY CCFO

Regarding the list of analysis and sampling methods proposed during the CCFO28 for the revision of the olive oil and olive pomace oil standard CXS 33-1981, the IOC proposes to consider the following observations:

For lead, use the following performance criteria, calculated from ML established in CXS193-1995 for lead in edible fats and oils.

Commodity	Provision	ML (mg/kg)	Method performance criteria						
			Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSDR) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria	Principle
Olive oils and olive pomace oils	Lead	0,08	0,045-0,115	0,016	0,032	44	60-115	ISO 12193 AOAC 994.02 AOCS Ca 18c-91	Atomic absorption spectrophotometry

For iron and copper, two methods (ISO 8294 and AOAC 990.05) type II are proposed, but the IOC proposes to maintain what the electronic working group suggested (CX/FO 24/28/8) and that performance criteria be used for those determinations calculated from the limits established in Codex Stand 33-1981.

Commodity	Provision	ML (mg/kg)	Method performance criteria						
			Minimum applicable range (mg/kg)	Limit of Detection (LOD) (mg/kg)	Limit of Quantification (LOQ) (mg/kg)	Precision (RSDR) (%) No more than	Recovery (%)	Example of applicable methods that meet the criteria	Principle
Olive oils and olive pomace oils	Iron	3	1,8-4,2	0,3	0,6	27	80-110	ISO 8294 AOAC 990.05	Atomic absorption spectrophotometry
Olive oils and olive pomace oils	Copper	0,1	0,03-0,17	0,01	0,02	44	80-110	ISO 8294 AOAC 990.05	Atomic absorption spectrophotometry

Taking into account that the provisions 1,2 diglycerides and pyropheophytin are not included in the CXS 33 Standard, it is not considered appropriate to include the corresponding analysis methods in the updated version of the CXS 234 Standard.

In provisions in which more than one method is proposed as type I, the methods must be cited and separated by hyphens.

IRAQ

Agree.

MONIQA ASSOCIATION

CCFO

MoniQA Assn. Comments on Methods of Analysis and Sampling for Olive Oils and Olive Pomace Oils

It appears that the two tables of olive oil methods are identical and contain methods for the provisions covered by both the main body and the section entitled Other Quality and Composition Factors of the revised version of CXS 33, as discussed by CCFO 28. Therefore, for the purposes of endorsement, only the first table need be considered for inclusion in CXS 234 and replacement of current entries for this commodity. Rationale for changes made to this table (a revised version, according to Section 4.0 of the CCMAS information document "Comprehensive guidance for the process of submission, consideration and endorsement of methods for inclusion in CXS 234", can be found as Annex 1) are given below:

Deletion:

1. The entry for Lead should be deleted from this table as this is covered by CXS 193 where the ML is already set at 0.08mg/kg for all fats and oils and method performance criteria are defined. Methods meeting these performance criteria should be inserted into Table 9 of CXS 234 (a suitable entry can be found in Annex 2).

Typing:

1. Two rational methods are presented for 1,2 Diglycerides with associated Type II/III typing. Referring to the methods by IOC and ISO, it appears from the performance data that the ISO method (ISO 29822) has less variability than the IOC method (COI/T.20/Doc. no 32). This consideration is covered in Section 3.8 of the CCMAS information document "*Comprehensive guidance for the process of submission, consideration and endorsement of methods for inclusion in CXS 234*". In addition, reference to the IOC method is not found in the IOC olive oil trade standard nor the revision of CXS 33 and does not appear to be routinely practiced by relevant laboratories, whereas the ISO method is routinely used by the olive oil trade globally to monitor extra virgin olive oil quality and is also listed in some national and regional trade standards; furthermore, it is also listed in the AOCS proficiency testing scheme for olive oil. Based on this reasoning, the IOC method should be listed as Type III and the ISO method listed as Type II.
2. Two defining methods are presented for Peroxide Value (PV); one as Type I and the other as Type IV. The identical methods (ISO 3960 and AOCS Cd 8b-90) are the general methods used for the determination of PV in all Codex fats and oils standards, whereas the IOC method (COI/T.20/Doc. No 35) is used solely for the PV determination in olive oil. The ISO/AOCS method requires the use of acetic acid/isooctane as solvent whereas the IOC method uses chloroform. Even though the IOC method is validated, widely quoted in regulations and used regularly in olive oil trade, in view of the health and safety concerns surrounding chloroform use, it should be retained as Type IV only because of its historical and frequent use status. The ISO/AOCS method should remain as Type I.

Olive oils and olive pomace oils: Methods of analysis				
Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
Olive oils and olive pomace oils	Acidity, free (acid value)	ISO 660 / AOCS Cd 3d-63 / COI/T.20/Doc. No 34	Titrimetry	I
Olive oils and olive pomace oils	Alpha-tocopherol	ISO 9936	HPLC (UV or fluorescence)	II
		AOCS Ce 8-89		III
Olive oils and olive pomace oils	Difference between the actual and theoretical ECN 42 triglyceride content	COI/T.20/Doc. no. 20 and COI/T.20/Doc. No 33	Analysis of triglycerides by HPLC and fatty acids by GC followed by calculation	I
Olive oils and olive pomace oils	1,2-Diglycerides	COI/T.20/Doc. No 32 ⁺	Gas chromatography (FID)	II
		ISO 29822 ⁺		III
Olive oils and olive	1,2 Diglycerides	ISO 29822 ¹	Gas chromatography (FID)	II
		COI/T.20/Doc. No 32 ¹		III

Olive oils and olive pomace oils: Methods of analysis				
Fats and oils and related products	Provision	Method(s)	Principle	Type
<u>pomace oils</u>				
Olive oils and olive pomace oils	Erythrodiol + uvaol	COI/T.20/Doc. No 26	Separation and gas chromatography (FID)	II
Olive oils and olive pomace oils	Fatty acid composition	COI/T.20/Doc. No 33	Gas chromatography (FID) of methyl esters	II
		AOCS Ce 2-66 and AOCS Ch 2-91 / Ce 1h-05		III
		ISO 12966-2 and ISO 12966-4		III
Olive oils and olive pomace oils	2-glyceryl monopalmitate percentage	COI/T.20/Doc. No 23	Gas chromatography (FID)	II
Olive oils and olive pomace oils	Fatty acid ethyl ester content	COI/T.20/Doc. No 28	Gas chromatography (FID)	II
Olive oils and olive pomace oils	Halogenated solvents, traces	ISO 16035	Gas chromatography (FID)	II
Olive oils and olive pomace oils	Insoluble impurities in light petroleum	ISO 663	Gravimetry	I
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I
Olive oils and olive pomace oils	Iron and copper	ISO 8294 / AOAC 990.05	AAS	II
Olive oils and olive pomace oils	Lead	Use performance criteria ²		
Olive oils and olive pomace oils	Moisture and volatile matter	ISO 662	Gravimetry	I

Olive oils and olive pomace oils: Methods of analysis				
Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Organoleptic characteristics	COI/T.20/Doc. no. 15	Panel test	I
Olive oils and olive pomace oils	Peroxide value	ISO 3960 / AOCS Cd 8b-90	Titrimetry	I
		COI/T.20/Doc. No 35		IV
Olive oils and olive pomace oils	Pyropheophytin "a"	ISO 29841 ¹	HPLC with UV/VIS or fluorescence detection	II
Olive oils and olive pomace oils	Relative density	ISO 6883 / AOCS Cc 10c-95	Pycnometry	I
Olive oils and olive pomace oils	Refractive index	ISO 6320 / AOCS Cc 7-25	Refractometry	II
Olive oils and olive pomace oils	Sampling	ISO 5555 and ISO 661		
Olive oils and olive pomace oils	Saponification value	ISO 3657 / AOCS Cd 3-25	Titrimetry	I
Olive oils and olive pomace oils	4 α -desmethylsterol and total sterol content	COI/T.20/Doc. No 26	Gas chromatography (FID)	II
Olive oils and olive pomace oils	Stigmastadienes	COI/T.20/Doc. no. 11	Gas chromatography (FID)	II
		ISO 15788-1		III
		AOCS Cd 26-96		III
		ISO 15788-2	HPLC	III
Olive oils and olive pomace oils	<i>trans</i> Fatty acids content	COI/T.20/Doc no. 33	Gas chromatography (FID) of methyl esters	II
		ISO 12966-2 and ISO 12966-4		III
		AOCS Ce 2-66 and AOCS Ce 1h-05		III

Olive oils and olive pomace oils: Methods of analysis				
Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Unsaponifiable matter	ISO 3596 / AOCS Ca 6b-53	Gravimetry	I
Olive oils and olive pomace oils	Wax content	COI/T.20/Doc. no. 28	Gas chromatography (FID)	II
		AOCS Ch 8-02		III

¹ This method is retained pending review by CCFO29 and CCFO30

² ~~Example of suitable methods: ISO 12193, AOAC 994.02, AOCS Ca 18c-91~~

Commodity	Provision	ML (mg/kg)	Method performance criteria					Examples of applicable methods that meet the criteria	Principle
			Maximum applicable range (mg/kg)	Limit of detection (LOD) (mg/kg)	Limit of quantification (LOQ) (mg/kg)	Precision RSDR (%) No more than	Recovery (%)		
Olive oils and olive pomace oils	Lead	0.08	0.045 – 0.115	0.016	0.020	44	60-115%	ISO 12193 AOAC 994.02 AOCS Ca 18c-91	Atomic absorption spectrophotometry (graphite furnace)

NMKL

METHODS FOR ENDORSEMENT SUBMITTED BY CCFO28

Proposed draft revision to the Standard for Olive Oils and Olive Pomace Oils (CXS 33-1981)

9. METHODS OF ANALYSIS AND SAMPLING

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Iron and copper	ISO 8294 / AOAC 990.05	AAS	II
NMKL suggest that method performance criteria should be used.				
Olive oils and olive pomace oils	Lead	Use performance criteria ^{4*}		
NMKL ask for numeric values for the method performance criteria. Depending on the values set NMKL has several methods for lead, such as NMKL 139, NMKL 161 and NMKL 186.				

^{4*} ISO 12193; AOAC 994.02; and AOCS Ca 18c-91 are currently listed in CXS 234.

PERU

METHODS FOR ENDORSEMENT SUBMITTED BY CCSCH

Draft Standard for spices derived from dried or dehydrated fruits and berries – small cardamom

Provision	Method	Principle	Type
Moisture	ISO 939	Distillation	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 2.1.			
Total Ash, on dry basis	ISO 939 and ISO 928	Distillation and Gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Cabe precisar que para ceniza, considerar que el método ISO 928 tiene el principio de gravimetría, el cual es más utilizado en nuestro país y accesible. Se propone además incluir el método ASTA Method 3.0.			
Acid Insoluble Ash, on dry basis	ISO 939 and ISO 930	Distillation and Gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 4.0.			
Volatile Oil on dry basis	ISO 939 and ISO 6571	Distillation followed by Volumetry	I
Para aceite volátil solo considerar el método ISO 6571(volumetría), con relación al método ISO 939 es la preparación de muestra por lo que no sería apropiado incluirlo. Se propone además incluir el método AOAC 962.17			
Extraneous Matter	ISO 927	Visual Examination followed by Gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone también incluir el método ASTA Method 14.1			
Light seeds	IS 1907*	Visual examination followed by gravimetry	III
La norma IS 1907 es sobre requisitos y esta recomienda el método IS 1797, revisar la propuesta. Finalmente, este método es de acceso limitado para nuestro país			

*IS 1907 is a method of analysis based on Indian standard.

Draft Standard for spices derived from dried or dehydrated fruits and berries -allspice, juniper berry and star anise

Product Name	Provision	Method	Principles	Type
Allspice	Moisture	ISO 939	Distillation	I
Juniper berries	Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 2.1			
Star anise	Total ash on dry basis	ISO 939 and ISO 928	Distillation and gravimetry.	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Cabe precisar que, para ceniza, considerar que el método ISO 928 tiene el principio de gravimetría, el cual es más utilizado en nuestro país y accesible. Se propone además incluir el método ASTA Method 3.0.				

Acid- insoluble on dry basis	ISO 939 and ISO 930	Distillation and gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 4.0			
Volatile oils on dry basis	ISO 939 and ISO 6571	Distillation followed by volumetry	I
Para aceite volátil solo considerar el método ISO 6571(volumetría), con relación al método ISO 939 es la preparación de muestra por lo que no sería apropiado incluirlo. Se propone además incluir el método AOAC 962.17			
Extraneous matter	ISO 927	Visual examination followed by gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone también incluir el método ASTA Method 14.1.			

Draft Standard for dried or dehydrated roots, rhizomes and bulbs - turmeric

Parameter	Method	Principle	Type
Moisture	ISO 939	Distillation	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 2.1			
Total Ash on dry basis	ISO 939 and ISO 928	Distillation and gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Cabe precisar que para ceniza, considerar que el método ISO 928 tiene el principio de gravimetría, el cual es más utilizado en nuestro país y accesible. Se propone además incluir el método ASTA Method 3.0			
Acid Insoluble Ash on dry basis	ISO 939 and ISO 930	Distillation and gravimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Se propone además incluir el método ASTA Method 4.0			
Curcuminoids content on dry basis (Colouring power)	ISO 2825 and ISO 5566	Spectrophotometry	I
Para el contenido de curcumina solo considerar ISO 5566, el ISO 2825 se refiere a la preparación de la muestra de ensayo por lo que no sería necesario incluirlo.			

METHODS FOR ENDORSEMENT SUBMITTED BY CCFO28

Proposed draft revision to the Standard for Olive Oils and Olive Pomace Oils (CXS 33-1981)

10. METHODS OF ANALYSIS AND SAMPLING

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
Perú ha examinado el método propuesto y ratifica esta propuesta priorizando los métodos ISO y AOCS.				

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Alpha-tocopherol	ISO 9936	HPLC (UV or fluorescence)	II
		AOCS Ce 8-89		III
Perú ha examinado el método propuesto y ratifica esta propuesta priorizando los métodos ISO y AOCS.				
Olive oils and olive pomace oils	Fatty acid composition	COI/T.20/Doc. No 33	Gas chromatography (FID) of methyl esters	II
		AOCS Ce 2-66 and AOCS Ch 2-91 / Ce 1h-05		III
		ISO 12966-2 and ISO 12966-4		III
Perú ha examinado el método propuesto y ratifica esta propuesta. Además, se propone incluir el método AOAC 996.06, Fat (Total, Saturated, and Unsaturated) in Foods Hydrolytic Extraction Gas Chromatographic Method.				
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta Sin embargo, se debe corregir el código, Dice: AOAC 9930.20 Debe decir: AOAC 993.20 Iodine Value of Fats and Oils Wijs (Cyclohexane–Acetic Acid Solvent) Method.				
Olive oils and olive pomace oils	Lead	Use performance criteria ^{5*}		
<p>Métodos a considerar:</p> <ul style="list-style-type: none"> – ISO 12193:2004 Grasas y aceites animales y vegetales Determinación de plomo mediante espectroscopia de absorción atómica directa en horno de grafito. – AOAC 994.02: Determinación de Pb en aceites y grasas comestibles mediante GF-AAS – Método oficial AOCS Ca 18c-91 Reaprobado en 2017 Plomo mediante espectrofotometría de absorción atómica en horno de grafito. 				
Olive oils and olive pomace oils	4a-desmethylsterol and total sterol content	COI/T.20/Doc. No 26	Gas chromatography (FID)	II
<p>– Perú ha examinado el método propuesto y ratifica esta propuesta.</p> <p>Se sugiere considerar también los métodos ISO 12228-2. Determinación del contenido de esteroides individuales y totales. Método cromatográfico de gases. Parte 2: Aceites de oliva y aceites de orujo de oliva, y el AOCS Ch 6-91 Composición de la fracción de esteroides de aceites y grasas animales y vegetales mediante TLC y GLC capilar.</p>				

OTHER QUALITY AND COMPOSITION FACTORS

^{5*} ISO 12193; AOAC 994.02; and AOCS Ca 18c-91 are currently listed in CXS 234.

3. METHODS OF ANALYSIS AND SAMPLING

Fats and oils and related products	Provision	Method(s)	Principle	Type
Olive oils and olive pomace oils	Absorbency in ultra-violet	COI/T.20/Doc. No. 19 / ISO 3656 / AOCS Ch 5-91	Absorption in ultra-violet	I
Perú ha examinado el método propuesto y ratifica esta propuesta priorizando los métodos ISO 3656 y AOCS Ch 5-91.				
Olive oils and olive pomace oils	Acidity, free (acid value)	ISO 660 / AOCS Cd 3d-63 / COI/T.20/Doc. No 34	Titrimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta priorizando los métodos ISO 660 y AOCS Cd 3d-63				
Olive oils and olive pomace oils	Alpha-tocopherol	ISO 9936	HPLC (UV or fluorescence)	II
		AOCS Ce 8-89		III
Perú ha examinado el método propuesto y ratifica esta propuesta priorizando los métodos ISO y AOCS Cd 3d-63.				
Olive oils and olive pomace oils	Iodine value	ISO 3961 / AOAC 9930.20 / AOCS Cd 1d-92 / NMKL 39	Wijs-Titrimetry	I
Perú ha examinado el método propuesto y ratifica esta propuesta. Considerar que el código correcto es: AOAC 993.20 Iodine Value of Fats and Oils Wijs (Cyclohexane–Acetic Acid Solvent) Method.				
Olive oils and olive pomace oils	Lead	Use performance criteria ^{6*}		
<p>Métodos a considerar:</p> <ul style="list-style-type: none"> – ISO 12193:2004 Grasas y aceites animales y vegetales Determinación de plomo mediante espectroscopia de absorción atómica directa en horno de grafito. – AOAC 994.02: Determinación de Pb en aceites y grasas comestibles mediante GF-AAS. – Método oficial AOCS Ca 18c-91 Reaprobado en 2017 Plomo mediante espectrofotometría de absorción atómica en horno de grafito. 				
Olive oils and olive pomace oils	4a-desmethylsterol and total sterol content	COI/T.20/Doc. No 26	Gas chromatography (FID)	II
<p>– Perú ha examinado el método propuesto y ratifica esta propuesta.</p> <p>Se Sugiere también incluir los métodos ISO 12228-2 Determinación del contenido de esteroides individuales y totales. Método cromatográfico de gases. Parte 2: Aceites de oliva y aceites de orujo de oliva y AOCS Ch 6-91 Composición de la fracción de esteroides de aceites y grasas animales y vegetales mediante TLC y GLC capilar.</p>				

PHILIPPINES

^{6*} ISO 12193; AOAC 994.02; and AOCS Ca 18c-91 are currently listed in CXS 234.

PERFORMANCE CRITERIA FOR PROCESSED FRUITS AND VEGETABLES

The Philippines considers to retain the method typing for calcium in preserved tomatoes (CXS 13-1981, GFSA category 04.2.2.4), canned citrus fruits (CXS 254-2007, GFSA category 04.1.2.4), certain canned vegetables (CXS 297-2009, GFSA category 04.2.2.4), and citrus marmalade (CXS 296-2009, GFSA category 04.1.2.5) and supports to endorse the performance criteria in Appendix I.

Rationale: Table 3 food additives are permitted for use at GMP levels and the GMP use level is not a set concentration thus, numeric performance criteria cannot be set for the provision of calcium for preserved tomatoes, canned citrus fruits, certain canned vegetables and citrus marmalade. The numeric performance criteria are suitable to the commodities and provisions listed in Appendix I.

UNITED ARAB EMIRATES

After reviewing the Appendix I and II to CX/MAS 24/43/3 and Appendix I to CX/MAS 24/43/3 Add.2, United Arab Emirates supports the endorsement of the cited methods of analysis and performance criteria.