Dear WGE Attendees:

In an attempt to provide some context and background information on the topics of CX/MAS 21/41/2 and 21/41/3 I have prepared the summary below. It is intended to help initiate discussions during the WGE Virtual Sessions on May 11 and 12. With the hope of effectively using the limited time we have for a robust Agenda. It is not comprehensive and does not represent the position of the United States (WGE co-chairs), but attempts to capture feedback from the Discussion Forum and the November 2020 Webinar. For CX/MAS 21/41/4, 21/41/5 and 21/41/10 I have not summarized that work, because much is captured in those individual documents.

This summary will not be projected during the virtual meeting as a replacement of the official CX/MAS documents but will hopefully assist attendees in addressing questions about proposed methods.

Kind Regards,

Greg Noonan

B. MATTERS FOR ACTION

CODEX COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES (CCNFSDU41)

Microbiological methods[1]

Background: CCMAS38 asked CCNFSDU to consider the proposed methods and whether they wished to retain the currently used microbiological methods (REP17/MAS, para 40, Appendix V)

CCNFSDU Response: CCNFSDU41 agreed to inform CCMAS that the microbiological methods for nicotinamide, niacin, pantothenic acid, pyridoxine, cobalamin, and Vitamin D were still in use and to retain these methods.

For WGE Consideration: Retention of the Microbiological methods in CXS 234 as Type III.

Methods of analysis for provisions in the *Standard for Follow-Up Formula* (CXS 156-1987)

Background: CCMAS40 endorsed method AOAC 2015.09 / ISO 21446 as Type II method for "infant formula" and asked CCNFSDU if these same methods and Types should be applied to "follow-up formula".

CCNFSDU Response: CCNFSDU41 agreed to inform CCMAS to replace AOAC 999.15 / EN 14148 for Vitamin K with AOAC 2015.09 / ISO 21446 as Type II.

For WGE Consideration: AOAC 2015.09 / ISO 21446 will replace AOAC 999.15 / EN 14148 as the Type II method for Vitamin K in follow-up formula.

Performance criteria for Type III methods for determination of nine minerals in CXS 72-1981[2]

Background: CCMAS40 ask CCNFSDU to consider establishing numerical method performance criteria for calcium, copper, iron, magnesium, manganese, phosphorous, potassium, sodium and zinc, and identify appropriate methods that meet the criteria (REP19/MAS, para 10)

CCNFSDU Response: CCNFSDU41 agreed to request CCMAS to develop performance criteria for Type III methods for determination of the nine minerals (calcium, copper, iron, magnesium, manganese, phosphorous, potassium, sodium and zinc) in the *Standard for Infant Formula and Formulas for Special Medical Purposes Intended for Infants* (CXS 72-1981), noting that this approach would provide flexibility to members to choose methods for general use; and to inform CCMAS that Type II methods should continue to be listed in CXS 234-1999 as specific methods were preferred for dispute settlement purposes.

Comment: There is general support from CCMAS delegates in moving from listing several methods to numeric criteria. In the case of infant formulas, where the methods report in w/w but the specification are in mg/kJ or mg/kcal for ready to feed, the development of straightforward numeric criteria is more difficult and would require more discussion and coordination with CCNFSDU. Along with the complicated nature of numeric criteria development, the response from CCNFSDU does not conform to the development of criteria. Numeric criteria are developed as an alternative to Type II AND Type III methods. Therefore, criteria would not be applicable only to Type III methods if Type II methods are retained.

For WGE Consideration: Based on the desire of CCNFSDU to retain specific methods for dispute resolution, numeric criteria will not be developed at this point, and the methods listed in CXS 234 will remain Typed. CCMAS response to CCNFSDU should capture the reasons for postponing numeric criteria and ask if further discussion/coordination is desired.

Methods to measure sweetness in Drink/Product for young children with added nutrients / Drink for young children[3]

Request from CCNFSDU: CCNFSDU41 agreed to ask CCMAS whether there were internationally validated methods to measure sweetness of carbohydrate sources for follow up formula for older infants and

[1] REP20/NFSDU, paras. 198-199
[2] REP20/NFSDU, para 9
[3] REP20/NFSDU, para 49

drink/product for young children with added nutrients or drink for young children.

Comment: The Committee has not received any submission of method(s) for the determination of sweetness in formulas or drink products for young children.

For WGE Consideration: Respond to CCNFSDU that no methods have been identified which can measure the "sweetness" of formulas or drinks for young children.

Dietary fibre: Applicable to the *Guidelines for Use of Nutrition and Health Claims* (CXG 23-1997): Table of Conditions for Claims[4]

Background: Fibre methods for Nutrition and Health Claims are listed in CXS 234 in a separate table from fibre methods identified for a specific commodity. The table begins on page 28 of the current version of CXS 234. Fibre methods are Type I methods and therefore only one method or two identical methods can be endorsed for a specific commodity and provision. Currently in CXS 234, the provision describes the applicability of the Type I method listed.

Request from CCNFSDU: CCNFSDU41 agreed to submit to CCMAS the method for dietary fibre, ICC Standard No. 185 / AOAC 2017.16 / as Type I method to replace AOAC 2009.01 / AACC Intl 32-45.01.

All Foods (1)	Method applicable for determining the content of dietary fibres of higher and lower molecular weight. The method is applicable in food that may, or may not, contain resistant starches	~~AOAC 2009.01 / AACC Intl 32-45.01~~ ICC Standard No.185 / AOAC 2017.16	Enzymatic-Gravimetry High Pressure Liquid Chromatography	Type I

1: Users should consult the description of each method for the food matrices that were the subject of interlaboratory study in the Official methods of Analysis of AOAC International.

Comment: How does this change impact the other methods currently methods listed in the section of the table on page 28, specifically the section titled "General methods that measure both the higher (monomeric units > 9) and the lower molecular weight fraction (monomeric units <=9)"? Do changes need to be made across this whole section of CXS 234? Will this method produce different fibre results then would be reached using the previously listed methods, for the same food? If so, what would other provisions would that change impact?

FAO/WHO COORDINATING COMMITTEE FOR ASIA (CCASIA21)[5]

Methods of analysis for laver products (CXS 323R-2017)

Background: CCMAS38 did not endorse the methods for acid value and agreed to request clarification from CCASIA whether the provision "acid value" applied to the laver product itself, or the extracted oil. If the method was for the extracted oil, it could be endorsed as Type I (REP17/MAS para 16-18).

CCMAS38 further noted that the extraction method in the Standard for laver products had been validated for instant noodles and not for laver, and that in this case, a classification as Type IV was recommended, and encouraged CCASIA to submit validation data to CCMAS to reconsider the proposed typing.

CCASIA Response: CCASIA21 clarified that the method for acid value was for the extracted oil and agreed to forward the information, in response to the CCMAS question regarding extraction method, for consideration by CCMAS.

[4] REP20/NFSDU, para 196
[5] REP20/ASIA, paras. 52-53

CCASIA21 agreed to provide the validation data on the method of analysis for moisture content for consideration to re-type the testing method for moisture content by CCMAS. See CRD2 presented to CCASIA21 for the validation data.

Action: Review the validation data prior to the WGE and note the material provided includes the validation of the extraction procedure and validation data on the determination of moisture from 4 laboratories

For WGE Consideration:

Listing of the Acidity Value and Moisture in CXS 234

Laver products	Acidity: acid value for the extracted oil	ASIA21-CRD2(oil extn)/ and ISO 660 | AOCS Cd 3d-63	Extraction of oil Titrimetry	I
Laver Products	Moisture Content	AOAC 925.45	Gravimetry, drying at atmospheric pressure	I

CODEX COMMITTEE ON PROCESSED FOODS AND VEGETABLES (CCPFV29)[6]

7. Concerning the request of CCMAS38 to recommend a method for fat extraction for testing for free fatty acids (FFA) in quick frozen French fried potatoes, CCPFV29 noted that the testing of FFA is performed on oil used to "par-fry" the potatoes (before freezing) and not on the potatoes. As a result, the FFA analysis would not be a quality requirement for quick-frozen French fried potatoes.

8. CCPFV29 recommended removing the FFA requirement for analysis from the annex on French Fried Potatoes of the *Standard for Quick Frozen Vegetables* (CXS 320-2015) and informing CCMAS that the FFA test and an extraction method were not needed.

[6] REP20/PFV, paras. 32-33 and App. VIII

FAO/WHO COORDINATING COMMITTEE FOR AFRICA (CCAFRICA23)

Methods of analysis for provisions in the draft standard for dried meat

Method	Provision	Principle	Type	WGE Chair Comments
AOAC 988.05	Determination of Moisture Content	Gravimetry	I	988.05 is not for moisture
ISO 1443 (AOAC 960. 39)	Determination of Crude Fat	Gravimetry	I	
AOAC 928.08	Determination of Crude Protein	Kjeldhal	II	Will need to choose one of these two protein methods, both are Type I
ISO 937	Determination of Crude Protein	Titrimetry	II	
ISO 1841-1 and ISO 1841-2	Determination of Edible Salt	Potentiometric / Volhard method	II	
AOAC 940.26	Determination of Ash Content	Gravimetry	I	This method is for dried fruit, is it applicable or is there another more appropriate method?
ISO 18787	Determination of Water Activity	Potentiometric	II	

For WGE Consideration:

Method	Provision	Principle	Type
~~AOAC 988.05~~ AOAC 950.46	Determination of Moisture Content	Gravimetry	I
ISO 1443 (AOAC 960. 39)	Determination of Crude Fat	Gravimetry	I
AOAC 928.08	Determination of Crude Protein	Kjeldhal	II
ISO 937	Determination of Crude Protein	Titrimetry	II
ISO 1841-1 and ISO 1841-2	Determination of chloride (expressed as sodium chloride-edible salt)	Volhard Potentiometric	II
AOAC 940.26	Determination of Ash Content	Gravimetry	I

NMKL 168 | ISO 18787	Determination of Water Activity	Electrometry ~~Potentiometric~~	II

FAO/WHO COORDINATING COMMITTEE FOR NORTH AMERICA AND SOUTH WEST PACIFIC (CCNASWP15)

Methods of analysis for provisions in the draft regional standard for fermented noni fruit juice

Provision	Method	Principle	Type	Notes	WGE Chair Comment
Brix value	AOAC 983.17	Refractometry	I	Adopted for fruit juices and nectars	There are other identical methods that can be listed, already in CXS 234.
pH value	NMKL 179	Potentiometry	II	Adopted for fruit juices and nectars	There are other methods in CXS 234, should these be listed here?
Ethanol	IFUMA 52	Enzymatic determination	II	Adopted for fruit juices and nectars	Should this be Type II or IV? Add AOAC Head Space Method as Type IV
Identification of scopoletin	Annex A*	Thin layer chromatography	IV		Method are provided in CX/MAS 21/41/03. Note this is Type IV, so collaborative study data is not required.
Identification of deacetylasperulosidic acid	Annex B*	Thin layer chromatography	IV		Method are provided in CX/MAS 21/41/03. Note this is Type IV, so collaborative study data is not required.

** In compliance with the general criteria for testing laboratories laid down in ISO/IEC Guide 17025:2017*

For WGE Consideration:

Along with the added (underlined) methods, there is also the need for feedback on the BOLD items. Please see comments/questions below the table for further information.

Provision	Method	Principle	Type	Notes
Soluble Solids ~~Brix value~~	AOAC 983.17 / EN 12143 / IFUMA 8 / ISO 2173	Refractometry	I	Adopted for fruit juices and nectars
pH value	NMKL 179	Potentiometry	II	Adopted for fruit juices and nectars
pH value	EN 1132	Potentiometry	IV	Adopted for fruit juices and nectars
pH value	IFUMA 11	Potentiometry	IV	Adopted for fruit juices and nectars
pH value	ISO 1842	Potentiometry	IV	Adopted for fruit juices and nectars
Ethanol	IFUMA 52	Enzymatic determination	**IV** ~~**II**~~	Adopted for fruit juices and nectars
Ethanol	AOAC 2017.07	Enzymatic Determination	**IV**	
Ethanol	AOAC 2016.12	Headspace GC-FID	**IV**	Adopted for fruit juices and nectars
Identification of scopoletin	Annex A*	Thin layer chromatography	IV	
Identification of deacetylasperulosidic acid	Annex B*	Thin layer chromatography	IV	

IFUMA 52 is an enzymatic determination method. There are questions about the validation status when applied to Noni juice and if the performance of the method would meet the specifications commonly used to assess the fitness for purpose. Enzymatic method can sometimes have higher repeatability and reproducibility than commonly accepted for instrumental methods.

AOAC 2017.07 and AOAC 2016.12 are first action methods for kombucha and other beverages. Neither had been applied to noni and are being proposed as Type IV until validation could be extended. Is endorsing as a Type IV appropriate?

Methods of analysis for provisions in the regional standard for kava products for use as a beverage when mixed with water

Provision	**Method**	**Principle**	**Type**
Noble kava varieties	Lebot V, Legendre L (2016), Comparison of kava (Piper methysticum Forst.) varieties by UV absorbance of acetonic extracts and high-performance thin-layer chromatography. Journal of Food Composition and Analysis 48:25-33. http://dx.doi.org/10.1016/j.jfca.2016.01.009 and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava (Piper methysticumG.Forst.), the traditional beverage of the Pacific. Beverages 2019, 5, 34; https://doi.org/10.3390/beverages5020034	High performance thin layer chromatography and/or UV absorbance of acetonic extracts measured at 440 nm (less or equal to 0.9)	IV
Moisture	*The Fiji Kava Standard 2017*. Section 8.1	Gravimetry	I
[Flavokavins	Lebot V, Legendre L (2016), Comparison of kava (Piper methysticumForst.) varieties by UV absorbance of acetonic extracts and high-performance thin-layer chromatography. Journal of Food Composition and Analysis 48:25-33. http://dx.doi.org/10.1016/j.jfca.2016.01.009 and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava (Piper methysticumG.Forst.), the traditional beverage of the Pacific. Beverages 2019, 5, 34; https://doi.org/10.3390/beverages5020034	High performance thin layer chromatography and/or UV absorbance of acetonic extracts measured at 440 nm (less or equal to 0.9)]	IV

Comments: The provision in the standard (REP20/NASWP Appendix III) appear to be for Total Kavalactones and not for Noble Kava Varieties. The two manuscripts listed have a good deal of overlap and additional details about the specific sections is needed to identify the approach that should be used in the analysis.

The WGE welcomes further information about the use of these methods and the applicability of UV absorbance at 440 nm as a useful determination of total kavalactones.

For WGE Consideration

Provision	Method	Principle	Type
Total kavalactones ~~Noble kava varieties~~	Lebot V, Legendre L (2016), Comparison of kava (Piper methysticum Forst.) varieties by UV absorbance of acetonic extracts and high-performance thin-layer chromatography. Journal of Food Composition and Analysis 48:25-33. http://dx.doi.org/10.1016/j.jfca.2016.01.009 (section 2.2, 2.3 and 2.5) and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava (Piper methysticumG.Forst.), the traditional beverage of the Pacific. Beverages 2019, 5, 34; https://doi.org/10.3390/beverages5020034 (Sections 2.2, 2.3)	High performance thin layer chromatography and~~/or~~ UV absorbance of acetonic extracts measured at 440 nm ~~(less or equal to 0.9)~~	IV
Moisture	AOAC 925.45 ~~*The Fiji Kava Standard 2017*. Section 8.1~~	Gravimetry	I
Flavokavins	Lebot V, Legendre L (2016), Comparison of kava (Piper methysticumForst.) varieties by UV absorbance of acetonic extracts and high-performance thin-layer chromatography. Journal of Food Composition and Analysis 48:25-33. http://dx.doi.org/10.1016/j.jfca.2016.01.009 (section 2.2, 2.3 and 2.5) and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava (Piper methysticumG.Forst.), the traditional beverage of the Pacific. Beverages 2019, 5, 34; https://doi.org/10.3390/beverages5020034 (Section 2.2, 2.3)	High performance thin layer chromatography and/or UV absorbance of acetonic extracts measured at 440 nm ~~(less or equal to 0.9)]~~	IV

FAO/WHO COORDINATING COMMITTEE FOR NEAR EAST (CCNE10)

Methods of analysis for provisions in the draft regional standard for mixed zaatar

Table from Appendix III plus comments from WGE Chair

Provision	Method	Principle	Type*	Chair Comments
Sodium chloride *(Comment: The draft standard lists table salt on a dry weight basis)*	AOAC 960.29	Titrimetry (Mohr: determination of chloride, expressed as sodium chloride)		AOAC 960.29 is "salt in butter". There is a General codex method AOAC 971.27 for salt in canned vegetables which may be more applicable to zaatar. Neither appear validated for spices.
Moisture	AOAC 925.10	Gravimetry, drying at 130°C		925.10 is a method for flour. Previous methods for moisture used AOAC 986.21 or ISO 939, both are distillation methods.
Acid-insoluble ash *(Comment: The draft standard lists ash on a dry weight basis)*	AOAC 941.12	Gravimetry, Furnace, 550°C (for the HCl insoluble ignited residue)		ISO 930 has been endorsed for acid insoluble ash in other spices.
Extraneous Matter	ISO 927	Visual Examination, followed by Volumetry	I	Previously endorsed for spices
Foreign Matter	ISO 927	Visual Examination, followed by Volumetry	I	Previously endorsed for spices
Insects/Excreta/Insect Fragments	Method appropriate for particular spice from AOAC Chapter 16, subchapter 14 [ISPM 08 Determination of Pest Status in an area]	Visual Examination	IV	Previously endorsed ISO 927 for spices. Also CCMAS40 endorsed AOAC 969.44 and 975.49 for spices. All 3 methods were Type IV.
Mould damage	Method V-8 Spices, Condiments, Flavors and	Visual examination (for whole)	IV	

	Crude Drugs (Macroanalytical Procedure Manual, FDA, Technical Bulletin Number 5)			
Excreta Mammalian, Excreta Other	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For whole) AOAC 993.27 (For Ground)	Visual Examination Enzymatic Detection Method	IV IV	

Background: At both CCMAS38 (REP17/MAS) and CCMAS40 (REP19/MAS) the WGE and Committee reviewed methods for a variety of spices. The methods from CCMAS38 and CCMAS40 had been submitted CCSCH and not CCNE. However, there is useful context and information in that previous work on spices. Additionally, the report of CCNE (REP20/NE) contains further discussion as well as he Draft Regional Standard for Mixed Zaatar (REP20/NE, App IV)

For WGE Consideration:

Provision	Method	Principle	Type*
Sodium chloride on dry weight basis	**Moisture method *(whichever is selected)*** **and** **AOAC 960.29 or** **AOAC 971.27 (codex general method)** *(comment: need to select 1 chloride method*)	Titrimetry ~~(Mohr: determination of chloride, expressed as sodium chloride)~~	I
Moisture	**AOAC 925.10 or** **AOAC 986.21 or** **ISO 939** *(comment: need to select 1 method)*	Gravimetry, drying at 130°C Distillation Distillation	I I I
Acid-insoluble ash on dry weight basis	**Moisture method** and AOAC 941.12	Gravimetry, Furnace, 550°C ~~(for the HCl insoluble ignited residue)~~	I
Extraneous Matter	ISO 927	Visual Examination, / Gravimetry ~~followed by Volumetry~~	I
Foreign Matter	ISO 927	Visual Examination / Gravimetry ~~, followed by Volumetry~~	I
Insects~~/Excreta~~/Insect Fragments	ISO 927 ~~Method appropriate for particular spice from AOAC Chapter 16, subchapter 14~~ ~~[ISPM 08 Determination of Pest Status in an area]~~	Visual Examination	IV
Insect/Insect Fragments	AOAC 969.44	Visual Examination	IV
Insect/Insect Fragments	AOAC 975.49	Visual Examination	IV
Mould damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA, Technical Bulletin Number 5)	Visual examination ~~(for whole)~~	IV
~~Excreta~~ Mammalian Excreta	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For whole)	Visual Examination	IV
Mammalian Excreta ~~Other~~	AOAC 993.27 (For Ground)	Enzymatic Detection ~~Method~~	IV

COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES (CCNFSDU41)

Methods of analysis for infant formula

Table from Appendix IV plus comments from WGE Chair

Commodity	Provision	Method	Principle	Proposed Type	Comments
Infant Formula	Thiamine	AOAC 2015.14 / ISO DIS 21470	Enzymatic digestion and LC-MS/MS	II	
		EN 14122	HPLC with pre- or post-column derivatization to thiochrom	~~II~~ III	Limited validation data on infant formula, should this be retained as Type III?
		AOAC 986.27	Fluorimetry	III	
	Riboflavin	AOAC 2015.14 / ISO DIS 21470	Enzymatic digestion and LC-MS/MS	II	
		EN 14152	HPLC	~~II~~ III	No validation data on infant formula should this be retained as Type III?
		AOAC 985.31	Fluorimetry	III	
	Niacin	AOAC 2015.14 / ISO DIS 21470	Enzymatic digestion and LC-MS/MS	II	
		EN 15652	HPLC	~~II~~ III	No validation data on infant formula should this be retained as Type III?
		AOAC 985.34	Microbioassay and turbidimetry	III	
	Vitamin B_6	AOAC 2015.14 / ISO DIS 21470	Enzymatic digestion and LC-MS/MS	II	
		AOAC 2004.07 / EN 14164	HPLC	~~II~~ III	
		AOAC 985.32	Microbioassay	III	
		EN 14166	Microbioassay	III	
	Choline	AOAC 2015.10 / ISO DIS 21468	LC-MS/MS	II	
		AOAC 999.14	Enzymatic Colorimetric Method with limitations on applicability due to choline	~~II~~ III	No recovery data, should this be retained as a Type III?

			and ascorbate concentration		
	Carnitine	AOAC 2015.10 / ISO DIS 21468	LC-MS/MS	II	
	Fructans	AOAC 2016.14 / ISO DIS 22579 | IDF 241	Enzymatic digestion with HPAEC-PAD	II	No specification in CXS 72, should it be included in CXS 234?
	Beta Carotene	AOAC 2016.13 / ISO DIS 23443	UHPLC	II	No specification in CXS 72, should it be included in CXS 234?
	Lycopene	AOAC 2016.13 / ISO DIS 23443	UHPLC	II	No specification in CXS 72, should it be included in CXS 234?
	Biotin	AOAC 2016.02 / ISO 23305	HPLC-UV	II	
		EN 15607	HPLC-fluorescence	III	

Comments: AOAC, ISO and IDF had previously provided performance data on all of the proposed methods. They resubmitted the information for CCMAS41. Please note that in the table in CX/MAS 21/41/3 nearly all ISO methods are listed as ISO DIS. This DIS designation is no longer applicable and the methods have been accepted as final methods by ISO.

Based on the information provided the method performance for the proposed Type II methods meets the general method performance requirements. In a number of places the previous Type II method has limited validation data in the infant formula matrix. Although this table lists the previous Type II method as a Type III, the WGE will need to determine if the method be retained or if we should recommend removal to CCNFSDU?

As noted above in the comments column, 3 of the provisions (fructans, beta carotene, lycopene) do not have specifications/limits in the commodity standard (CXS 72). From the Information Document (section 3.2 i) the Committee has agreed that *"All proposed methods of analysis must have direct pertinence to the Codex Standard to which they are directed.*" Given the lack of specification in the standard should these methods be endorsed for inclusion in CXS 234?

For WGE Consideration:

Commodity	Provision	Method	Principle	Proposed Type
Infant Formula	Thiamine	AOAC 2015.14 / ISO ~~DIS~~ 21470	Enzymatic digestion and LC-MS/MS	II
		EN 14122	HPLC with pre- or post-column derivatization to thiochrom	~~II~~ III
		AOAC 986.27	Fluorimetry	III
	Riboflavin	AOAC 2015.14 / ISO ~~DIS~~ 21470	Enzymatic digestion and LC-MS/MS	II
		EN 14152	HPLC	~~II~~ III
		AOAC 985.31	Fluorimetry	III
	Niacin	AOAC 2015.14 / ISO ~~DIS~~ 21470	Enzymatic digestion and LC-MS/MS	II
		EN 15652	HPLC	~~II~~ III
		AOAC 985.34	Microbioassay and turbidimetry	III
	Vitamin B_6	AOAC 2015.14 / ISO ~~DIS~~ 21470	Enzymatic digestion and LC-MS/MS	II
		AOAC 2004.07 / EN 14164	HPLC	~~II~~ III
		AOAC 985.32	Microbioassay	III
		EN 14166	Microbioassay	III
	Choline	AOAC 2015.10 / ISO ~~DIS~~ 21468	LC-MS/MS	II
		AOAC 999.14	Enzymatic Colorimetric Method with limitations on applicability due to choline and ascorbate concentration	~~II~~ III
	Carnitine	AOAC 2015.10 / ISO ~~DIS~~ 21468	LC-MS/MS	II

	~~Fructans~~	~~AOAC 2016.14 / ISO DIS 22579 | IDF 241~~	~~Enzymatic digestion with HPAEC-PAD~~	~~II~~
	~~Beta Carotene~~	~~AOAC 2016.13 / ISO DIS 23443~~	~~UHPLC~~	~~II~~
	~~Lycopene~~	~~AOAC 2016.13 / ISO DIS 23443~~	~~UHPLC~~	~~II~~
	Biotin	AOAC 2016.02 / ISO 23305	HPLC-UV	II
		EN 15607	HPLC-fluorescence	III

COMMITTEE ON PROCESSED FRUITS AND VEGETABLES (CCPFV29)

Background: For further information on the following methods and sampling plans, please see REP20/PFV. All the sampling plans in this item will be considered in light of the on-going work with GL50. Over the past 2 sessions in anticipation of the updates to GL50, CCMAS has chosen to postpone endorsement of new sampling plans. For these commodities the plans have been in use and are being "transferred" from a revoked standard.

Methods of analysis for provisions in the Standard for Gochujang

Note: The *Regional Standard for Gochujan*g (CXS 294R-2009) has been converted to a worldwide standard

Consequentially, the *Regional Standard for Gochujang* (CXS 294R-2009) was revoked.

Methods of analysis provisions in *Standard for Gochujang* have been endorsed previously and are included in the CXS 234.

Table from Appendix V plus comments from WGE Chair

Provision	**Method**	**Principle**	**Type**	**Comment**
Capsaicin	AOAC 995.03	HPLC	II	
Capsaicin	Described in the Standard (Annex I)	Gas chromatography	IV	Method will need to be moved from the standard to CXS 234.
Crude protein	AOAC 984.13 (Nitrogen conversion factor: 6.25)	Kjeldahl	I	Are conversion factors included in CXS 234 or in the Commodity Standard?
Moisture	AOAC 934.01 (≤ 70°C, ≤ 50 mm Hg))	Gravimetry	I	Should specific temperatures be listed here?

Background: The Proposed Draft for Gochujang (REP20/PFV, App II) contains the GC method for capsaicin, which will need to moved from the standard to CSX 234. The conversion factor and the specific temperatures used for moisture are not listed in the standard and are specific to the commodity, so they are not clearly identified in the method. Should these be retained in CXS 234 to alert users of the methods of the specific requirements? No changes to the table are proposed at this time.

Methods of analysis for provisions in the Standard for Chili sauce

The *Regional Standard for Chili Sauce* (CXS 306R-2011) has been converted to a worldwide standard. Consequently, the regional standard has been revoked. CXS234 already contains methods previously endorsed for pH and fill of containers. The sampling plan below is the same as the sampling plan in the CXS 306R.

Methods as they currently appear in CXS 234.

Commodity	**Provision**	**Method**	**Principle**	**Type**
Chili Sauce	pH	NMKL 179 (general method)	Potentiometry	II
Chili Sauce	pH	AOAC 981.12	Potentiometry	III
Chili Sauce	Fill of Containers	CAC/ RM 46	Weighing	I

Methods of analysis for provision for the General Standard for Dried Fruits

This General standard applies to dried fruits in general, as defined in Section 2 in this standard and also provides specific provisions for products covered in the Annexes (A: Dried appricots, B: Dates, C: Raisins, D: Dried Longans. E: Dried Persimmons)

Consequentially, *Standards for Dried Apricots* (CXS 130-1981), *Dates* (CXS 143-1985), and *Raisins* (CXS 67-1981) were revoked.

Currently CXS 234 contains a method for moisture AOAC 934.06 for dried apricots, dates and the current method for moisture in raisins is AOAC 972.20.

Background: Currently in CXS 234

Commodity	**Provision**	**Method**	**Principle**	**Type**
Dried apricots	Identification of defects	Described in the standard	Visual inspection	I
Dried apricots	Moisture	AOAC 934.06	Gravimetry (vacuum oven)	I
Dates	Identification of defects	Described in the standard	Visual inspection	I
Dates	Moisture	AOAC 934.06	Gravimetry (vacuum oven)	I

Raisins	Moisture	AOAC 972.20	Electrical Conductance	I

Table from CX/MAS21/41/3

Commodity	**Provision**	**Method**	**Principle**	**Type**
Dried fruits	Identification of defects	Described in the standard	Visual inspection	I
Dried fruits	Moisture	AOAC 934.06	Gravimetry (vacuum oven)	I

Discussion, led by the United States, of CX/MAS 21/41/4 Dairy Workable Package will follow the discussion of CX/MAS 21/41/3

Discussion, led by the Netherlands, of CX/MAS 21/41/4 Fats and Oils Workable Package will follow the Dairy Workable Package.

Introduction and discussion, led by Switzerland, of CX/MAS 21/41/10 will follow the Fats and Oils Package.