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Agenda Item 6(a)

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON MILK AND MILK PRODUCTS

Ninth Session

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REPORT OF THE IDF/ISO WORKING GROUP ON METHODS OF ANALYSIS AND SAMPLING FOR MILK AND MILK PRODUCTS

INTRODUCTION

During its 8th Session the Codex Committee on Milk and Milk Products agreed to request information on methods of analysis and sampling required in standards for milk and milk products through a Circular Letter (ref. CL 2008/2-MMP with a deadline for reply by 31 March 2009). It also agreed to request the IDF/ISO Working Group on Methods of Analysis and Sampling:

- i) To consider the replies to this Circular Letter
- ii) To prepare a list of methods required in the standards currently being elaborated by the Committee;
- iii) To review the current methods of analysis and sampling for milk and milk products and provide recommendations on updates to the lists.

for consideration at the 9th Session of CCMMP in 2010. (ref. Codex ALINORM 08/3111, para. 106)

I – Current methods of analysis and sampling for milk and milk products and recommendations on updates to the lists of Methods including replies to comments received

The IDF/ISO Working Group on Methods of Analysis and Sampling has reviewed current methods of analysis and sampling for milk and milk products (CX/STAN 234-1999) and provides its recommendations on updates to the list in Appendix 1 to this report. It is to be noted that the review comprised only those analytical methods that were developed by ISO and/or IDF.

The IDF/ISO Working Group on Methods of Analysis and Sampling has also reviewed comments from the 31st session of CCMAS (ALINORM 08/31/23, para 59) and provides its recommendation regarding the method Type for the determination of natamycin in cheese (and cheese rind) in Appendix 1 to this report.

The IDF/ISO Working Group on Methods of Analysis and Sampling has also reviewed comments of Codex member countries received in response to CL 2008/2-MMP - PART B - Methods of Analysis and Sampling for Milk and Milk Products and would like to share its analysis and recommendations for consideration by CCMMP. The following comments were received from Argentina and Peru.

Comments received from ARGENTINA

A summary of the comments received by Argentina is presented below. The full comments are included in Appendix 4 of this document.

- Argentina provided updated references for the standards IDF 13C:1987/ISO1737:1999 (replaced by ISO 1737|IDF 013:2008), IDF 9C:1987/ISO 1736:2000 (replaced by ISO 1736|IDF 009:2008.), IDF 16C:1987/ISO 2450:1999 (replaced by ISO 2450|IDF 016:2008.) ISO 5943/IDF 88:2004 (replaced by ISO 5943|IDF 88:2006), IDF 59A:1986/ISO 1854:1999 (replaced by ISO 1854|IDF 059:2008).

- Argentina commented that the scope of the following standards does not include vegetable fat-added products for application in the blends of milk and vegetable fat: IDF 13C:1987/ISO 1737:1999 (ISO 1737/IDF 013:2008), IDF 9C:1987/ISO 1736:2000 (ISO 1736/IDF 009:2008), ISO 5537/IDF 26:2004, ISO 8968-1/2/IDF 20-1/2:2001, ISO 2911/IDF 35:2004, IDF 16C:1987/ISO 2450:1999 (ISO 2450/IDF 016:2008)
- Argentina indicated that the provision “Solubility” for Milk powders and cream powders with reference to ISO 8156/IDF 129:2005 should be replaced with “Solubility Index” as this is what is actually determined.
- The remaining comments are summarized in the table below.

Creamed whey cheese	Fat on the dry basis	IDF 59A:1986/ ISO 1854:1999	It is suggested that “Creamed whey cheese” be translated as “Queso de suero con crema” instead of “Queso de suero cremoso” in the Spanish version.
Whey powders	Lactose	ISO 5765-1/2/IDF 79- 1/2:2002	The scope of the standard does not include powders.
Whey powders	Water	ISO 5537/IDF 26:2004	The scope of the standard does not include powders.
Milk fat products	Vegetable fat (sterols)	IDF 54:1979/ ISO3594:1976	“1976” should be replaced with “IDF 54:1970”. “Gas liquid chromatography” should be replaced with “Phytosteryl acetate test”. The name of the standard is incorrect.
Milk fat products	Vegetable fat	IDF 32:1965/ ISO3595:1976	ISO 32:1965 is no longer in force and ISO 3595:1976 is not in the Catalogue. We propose to replace the standard with a more recent one: ISO 17678/IDF 202. “Phytosteryl acetate test” should be replaced with “Gas liquid chromatography”. The name of the standard is incorrect.
Butter	Vegetable fat	ISO 17678/IDF 202	The standard was not available for comment.
Butter	Vegetable fat	IDF 32:1965/ISO 3595:1976 Standard AOAC 955.34A	ISO 32:1965 is no longer in force, and ISO 3595:1976 is not in the Catalogue.
Processed cheese	Protein	ISO /TS/IDF/RM 25:2007	We suggest the adoption of the specific standard for the determination of the protein content in dairy products: ISO 8968-1/2/IDF 20-1/2:2001.

Analysis and Recommendations of the IDF/ISO Working Group on Methods of Analysis and Sampling

- Argentina is correct with its comments relating to the updates of references to IDF/ISO standards. These updates are included in Appendix 1 of this document.
- Argentina is correct with its comments that the scope of the following standards does not include vegetable fat-added products: IDF 13C:1987/ISO 1737:1999 (ISO 1737|IDF 013:2008), IDF 9C:1987/ISO 1736:2000 (ISO 1736|IDF 009:2008), ISO 5537|IDF 26:2004, ISO 8968-1/2|IDF 20-1/2:2001, ISO 2911|IDF 35:2004. The scope of these respective standards does not include this type of product as these standards have not specifically validated for those products. CCMAS has acknowledged this and therefore designated these standards as a Type IV method, rather than another Type (CCMAS, 2006 and 2008).
- Argentina is correct that the scope ISO 2450|IDF 16:2008 does not include vegetable fat added products, but the standard is referenced for fat in cream. Therefore vegetable fat does not need to be included in the scope (this comment may result from a copy/paste error?).

- Argentina is correct when stating that “Solubility” should be replaced by “Solubility Index” as this is what is actually determined for Milk powders and cream powders (ISO 8156|IDF 129:2005). This update is included in the Appendix 1 of this document.
- Following the comments from Argentina on the Spanish version, the IDF/ISO Working Group on Methods of Analysis and Sampling recommends that the Codex Secretariat should check the correct translation of terms and acronyms.
- For the reference to ISO 5765-1/2|IDF 79-1/2, Argentina commented that the scope of the standard does not include powders. We assume Argentina means, “...does not include whey powders”. Although the scope of the method does not specifically include whey powders, the method is validated for all types of milk powder, dried ice mixes and cheese, and has been endorsed by CCMAS as being suitable for whey powders (ALINORM 08/31/23).
- For the reference to ISO 5537|IDF 26:2004 Argentina commented that the scope of the standard does not include powders. We assume Argentina means, “...does not include whey powders”. Although the scope of the method does not specifically include whey powders, the method is validated for all types of dried milk, and has been endorsed by CCMAS as being suitable for whey powders (ALINORM 08/31/23).
- The 5 last comments refer to provisions and methods not endorsed at the CCMAS in 2008. The references to the methods IDF 54:1979/ISO 3594, IDF 32:1965/ISO 3595:1976 and ISO 17678|IDF 202 have been replaced by the methods ISO 12078|IDF 159:2006 and ISO 18252|IDF 200:2006 at the 8th session of the CCMMP. Following the discussions at the 8th session of CCMMP in 2008, the committee took note of the reference to the standard ISO/TS 17837|IDF/RM 25:2007, and decided not to include it since the Draft standard for Processed cheese was still being discussed.

No action is required by CCMMP since this has been already corrected in the current version of CODEX STAN 234 (ref. Appendix 1 to this report).

Comments from Peru

Peru suggested the revision by CCMAS of the standard used for determination of total protein in whey powders, in order to use the standard ISO 8938|IDF 20-1/2:2001 instead of the IDF 92:1979 which is for caseins and caseinates.

- The IDF/ISO working group would suggest CCMMP to delete the reference to IDF 92:1979 / ISO 5549:1978 since the provision for milk protein is already recommended for whey powders with a Type I method (ISO 8968-1/2|IDF 20-1/2:2001 / AOAC 991.20).

II – List of Methods required in the standards currently being elaborated by CCMMP

CCMMP is currently working on a Proposed Draft Standard for Processed Cheese (at Step 3) as well as on a Proposed draft Amendment to the Codex Standard for Fermented Milks pertaining to Composite Fermented Milk Drinks (at Step 6). The IDF/ISO Working Group on Methods of Analysis and Sampling has reviewed the compositional requirements in the current draft standards and presents its findings and recommendations with regard to a list of methods required in Appendix 2 to this report.

III – Suggested List of Methods for which a provision exists in Codex dairy standards

As part of the review of the current methods of analysis by the IDF/ISO Working group, a list of methods for which a requirement exists in Codex dairy standards have been identified and are included in Appendix 1.

The IDF/ISO working group invites the CCMMP to consider inclusion of these standards in the Codex Stan 234.

IV – IDF/ISO Review of AOAC methods proposed for inclusion

IDF/ISO invites CCMMP to take note of some comments (in Appendix 4 of this document) regarding AOAC standards proposed for inclusion in the CX/STAN 234.

Appendix 1

Update to the current list of recommended IDF/ISO methods, and replies to comments received to CL 2008/2 – MMP regarding methods for analysis and sampling, including suggested methods for inclusion for which a provision exists in Codex dairy standards

Proposed changes are shown in ~~bold strikethrough~~ for deletion and **bold underlined** for additions.

The table below includes the modifications adopted in 2008 (Appendix III – Part D of the ALINORM 08/31/23 (CCMAS 2008)).

PART A – METHODS OF ANALYSIS BY ALPHABETICAL ORDER OF COMMODITY CATEGORIES AND NAMES

Products	Provisions	Method	Principle	Type	IDF comments
Milk products	Iron	NMKL 139 (1991) (Codex general method)	Atomic absorption spectrophotometry	II	
Milk products	Iron	IDF 103A:1986 / ISO 6732:1985	Photometry (bathophenanthroline)	IV	
Milk products (products not completely soluble in ammonia)	Milk fat	ISO 8262-3 IDF 124-3:2005	Gravimetry (Weibull-Berntrop)	I	
Blend of evaporated skimmed milk and vegetable fat	Total fat	ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO 1737:1999	Gravimetry (Röse-Gottlieb)	IV	<i>Method update</i>
Blend of evaporated skimmed milk and vegetable fat	Milk solids-not-fat (MSNF) ¹	IDF 21B:1987/ISO 6731:1989 and ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO 1737:1999	Calculation from total solids content and fat contents	IV	<i>Method update</i>
Blend of evaporated skimmed milk and vegetable fat	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Reduced fat blend of evaporated skimmed milk and vegetable fat	Total fat	ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO 1737: 1999	Gravimetry (Röse-Gottlieb)	IV	<i>Method update</i>
Reduced fat blend of evaporated skimmed milk and vegetable fat	MSNF ¹	IDF 21B:1987 / ISO 6731:1989 and ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO1737:1999	Calculation from total solids content and fat contents	IV	<i>Method update and Principle update</i>
			<u>Gravimetry (Röse-Gottlieb)</u>		

¹ Milk total solids and MSNF content include water of crystallization of lactose

Products	Provisions	Method	Principle	Type	IDF comments
Reduced fat blend of Evaporated skimmed milk and vegetable fat	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Blend of skimmed milk and vegetable fat in powdered form	Total fat	ISO 1736 IDF 9:2008 IDF 9C:1987 / ISO 1736:2000	Gravimetry (Röse-Gottlieb)	IV	<i>Method update</i>
Blend of skimmed milk and vegetable fat in powdered form	Water ²	ISO 5537 IDF 26:2004	Gravimetry, drying at 87 °C	IV	
Blend of skimmed milk and vegetable fat in powdered form	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Total fat	ISO 1736 IDF 9:2008 IDF 9C:1987 / ISO 1736:2000	Gravimetry (Röse-Gottlieb)	IV	<i>Method update</i>
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Water ²	ISO 5537 IDF 26:2004	Gravimetry, drying at 87 °C	IV	
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Blend of sweetened condensed skimmed milk and vegetable fat	Total fat	ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO 1737:1999	Gravimetry (Röse-Gottlieb)	IV	<i>Method update</i>
Blend of sweetened condensed skimmed milk and vegetable fat	Sucrose	ISO 2911 IDF 35:2004	Polarimetry	IV	
Blend of sweetened condensed skimmed milk and vegetable fat	Milk solids-not-fat (MSNF) ¹	IDF 15B:1991 / ISO 6734:1989 and ISO 1737 IDF 13:2008 IDF 13C:1987 / ISO 1737:1999	Calculation from total solids content and fat contents Gravimetry (Röse-Gottlieb)	IV	<i>Method update and Principle update</i>

² Water content excluding the crystallized water bound to lactose (generally known as “moisture content”)

Products	Provisions	Method	Principle	Type	IDF comments
Blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Total fat <= 8% m/m >= 1% m/m	ISO 1737 IDF 13:2008 IDF 13:1987 / ISO 1737: 1999	Gravimetry (Röse-Gottlieb)	IV	Method update
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	MSNF ¹ >= 20% m/m	IDF 15B:1991 / ISO 6734:1989 and ISO 1737 IDF 13:2008 IDF 13:1987 / ISO 1737:1999	Calculation from total solids content and fat content Gravimetry (Röse-Gottlieb)	IV	Method update and Principle update
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF ¹	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry (Kjeldahl)	IV	
Butter	Copper	ISO 5738 IDF 76:2004 AOAC 960.40	Photometry, diethyldithiocarbamate	II	
Butter	Lead	AOAC 972.25 (Codex general method)	Atomic absorption spectrophotometry	II	
Butter	MSNF ¹	ISO 3727-2 IDF 80-2:2001	Gravimetry	I	
Butter	Milk fat	ISO 17189 IDF 194:2003	Gravimetry Direct determination of fat using solvent extraction	I	
Butter	Salt	ISO 15648 IDF 179:2004	Potentiometry (determination of chloride, expressed as sodium chloride)	II III	Type update, see comment below.
Butter	Salt	ISO 1738 IDF 12:2004	Titrimetry (Mohr: determination of chloride, expressed as sodium chloride)	III II	

IDF would like to invite the CCMMP to reconsider the types allocated to the methods above back to their status at the 8th CCMMP (ALINORM 08/31/11, Appendix VII) - i.e. ISO1738:2004 | IDF12:2004 (titrimetry) as Type II method ISO15648|IDF179:2004 (potentiometry) as Type III method.

The safety concerns associated with the use of potassium dichromate in the method ISO1738:2004 | IDF12:2004 (titrimetry) could be adequately addressed through application of Good Laboratory Practices. This is also acknowledged by CCMAS (ALINORM 08/31/23, Para 62).

Second, it should be noted that the Reference Methods (Type II) are recommended for use in cases of dispute and for calibration purposes while Alternative Approved Methods (Type III) may be used for control, inspection or regulatory purposes (Codex Procedural Manual, 18th edition). Therefore, the latter is used routinely and widely as compared to a Reference Method. Thus categorization of the titrimetric method as an Alternative Approved Method (Type III) would result in more use of the chemical in question.

Products	Provisions	Method	Principle	Type	IDF comments
Butter	Vegetable fat (sterols)	ISO 12078 IDF 159:2006	Gas chromatography	II	
		ISO 18252 IDF 200:2006	Gas chromatography	III	
<u>Butter</u>	<u>Milk fat purity</u>	<u>ISO 17678 IDF 202:2010</u>	<u>Gas liquid chromatography</u>	<u>I</u>	<i>Method proposed for inclusion. See note below.</i>
<i>The method allows the user to determine whether the milk fat has been adulterated (above a certain threshold). The scope of the method is not limited to butter, but is applicable to milk fat extracted from a range of milk products. In terms of detecting adulteration practices this standard is an important method to have as practically quantitative results cannot be derived from the sterol content of vegetable fats, because they depend on the production and processing conditions. Also, the qualitative determination of foreign fat using sterols is ambiguous. Furthermore, in contrast to the sterol methods, this standard has a broader scope than just detecting adulteration with vegetable fat as it also detects adulteration with fat from animal origin.</i>					
Butter	Water ²	ISO 3727-1 IDF 80-1:2001	Gravimetry	I	
Cheese	Citric acid	ISO/TS 2963 IDF/RM 34:2006	Enzymatic method	IV	
Cheese	Citric acid	AOAC 976.15	Photometry	II	
Cheese	Milk fat	ISO 1735 IDF 5:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	
Cheese	Moisture	ISO 5534 IDF 4:2004	Gravimetry, drying at 102 °C	I	
Cheese (and cheese rind)	Natamycin	ISO 9233-1 IDF 140-1:2007	Molecular absorption spectrophotometry	III	<i>Type update (refer to CX/MMP 10/9/2, paragraphs 24-25)</i>
		ISO 9233-2 IDF 140-2:2007	HPLC	II	<i>Type update (refer to CX/MMP 10/9/2, paragraphs 24-25)</i>
<u>Cheese</u>	<u>Sodium chloride</u>	<u>ISO 5943 IDF 88:2006</u>	<u>Potentiometry (determination of chloride, expressed as sodium chloride)</u>	<u>II</u>	<i>Method proposed for inclusion</i>
Cheeses, individual	Milk fat in dry matter	ISO 1735 IDF 5:2004	Gravimetry after solvent extraction	I	
Cheeses, individual	Dry matter (Total solids)	ISO 5534 IDF 4:2004	Gravimetry, drying at 102 °C	I	
Cheeses in brine	Milk fat in dry matter (FDM)	ISO 1735 IDF 5:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	
Cottage cheese	Fat-free dry matter	ISO 5534 IDF 4:2004 and <u>ISO 1735 IDF 5:2004</u>	Gravimetry, drying at 102 °C <u>Gravimetry (Schmid-Bondzynski-Ratzlaff)</u>	IV	<i>Method update and Principle update</i>

Products	Provisions	Method	Principle	Type	IDF comments
			Calculation from dry matter content and fat contents		
Cottage cheese	Milk fat	ISO 1735 IDF 5:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	IV	
		ISO 8262-3 IDF 124-3:2005	Gravimetry (Weibull-Berntrop)	IV	
Cottage cheese	Milk fat in dry matter	ISO 8262-3 IDF 124-3:2005	Gravimetry (Weibull-Berntrop)	I	
Cheese, unripened including fresh cheese	Protein	ISO 8968-1/2 IDF 20-1/2:2001 AOAC 991.20-23	Titrimetry, Kjeldahl	I	<i>Method update</i>
Cream and prepared creams	Milk protein	ISO 8968-1/2 IDF 20-1/2:2001 AOAC 991.20	Titrimetry (Kjeldahl)	I	<i>Method update</i>
Cream	Milk fat	ISO 2450 IDF 16:2008 IDF 16C:1987 / ISO 2450:1999	Gravimetry (Röse-Gottlieb)	I	<i>Method update</i>
Cream	Solids	IDF 21B:1987 / ISO 6731:1989	Gravimetry (drying at 102 °C)	I	
Creams lowered in milk fat content	Milk fat	ISO 2450 IDF 16:2008 IDF 16C:1987 / ISO 2450:1999 AOAC 995.19	Gravimetry	I	<i>Method update</i>
Creams, whipped creams and fermented creams	MSNF ¹	ISO 3727-2 IDF 80-2:2001 AOAC 920.116	Gravimetry	I	
Cream cheese	Dry matter	ISO 5534 IDF 4:2004	Gravimetry drying at 102 °C	IV	
Cream cheese	Moisture on fat free basis	ISO 5534 IDF 4:2004 ISO 1735 IDF 5:2004	Gravimetry drying at 102°C Gravimetry (Schmid-Bondzynski-Ratzlaff)	IV IV	
			Calculation from fat content and moisture content	IV	
Dairy fat spreads	Total fat	ISO 17189 IDF 194:2003	Gravimetry Direct determination of fat using solvent extraction	I	
Dairy fat spreads	Vegetable fat (sterols)	ISO 12078 IDF 159:2006 ISO 18252 IDF 200:2006	Gas chromatography Gas chromatography	II III	
<u>Dairy fat spreads</u>	<u>Milk fat purity</u>	<u>ISO 17678 IDF 202:2010</u>	<u>Gas liquid chromatography</u>	<u>I</u>	<i>Method proposed for inclusion See also comments above for Butter</i>
Edible casein products	Acids, free	ISO 5547 IDF 91:2008 7	Titrimetry (aqueous extract)	IV	<i>Method update</i>

Products	Provisions	Method	Principle	Type	IDF comments
Edible casein products (rennet casein)	Ash (including P ₂ O ₅)	ISO 5545 IDF 90:2008 7	Gravimetry, ashing at 825 °C	IV I	<i>Method update and Type update. This should be Type I as the precision figures are available in the standard.</i>
Edible casein products (acid casein)	Fixed ash (including P₂O₅)	ISO 5544 IDF 89:2008	Gravimetry, ashing at 825 °C	I	<i>Method Proposed for inclusion: see comment below.</i>
<i>Both methods ISO 5545 IDF 90:2008 and ISO 5544 IDF 89:2008 are needed to cover the full range of products covered under “Edible casein products”. The adopted method ISO 5545 IDF 90:2008 is suitable for caseins obtained by rennet precipitation and of caseinate, except ammonium caseinate. ISO 5544 IDF 89 needs to be used for acid caseins, ammonium caseinates and their mixtures with rennet casein and with caseinates of unknown type. Magnesium acetate is added to fix the P₂O₅; Magnesium acetate is not needed for rennet caseins as there is enough minerals in this type of product to bind the phosphorus.</i>					
Edible Casein Products	Casein in protein	ISO 17997-1 IDF 29-1:2004	Titrimetry, Kjeldahl	I	
Edible casein products	Copper	AOAC 985.35	Atomic absorption spectrophotometry	II	
Edible casein products	Copper	ISO 5738 IDF 76:2004	Colorimetry (diethyldiethiocarbamate)	III	
Edible casein products	Lactose	ISO 5548 IDF 106:2004	Photometry (phenol and H ₂ SO ₄)	IV	
Edible casein products	Lead	AOAC 972.25 (Codex general method)	Atomic absorption spectrophotometry	II	
Edible casein products	Lead	AOAC 982.23 (Codex general method)	Anodic stripping voltammetry	III	
Edible casein products	Lead	ISO/TS 6733 IDF/RM 133:2006	Spectrophotometry (1,5-diphenylthiocarbazone)	IV	
Edible casein products	Lead	NMKL 139 (1991) (Codex general method)	Atomic absorption spectrophotometry	III	
Edible casein products	Milk fat	ISO 5543 IDF 127:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	
Edible casein products	Moisture Water²	ISO 5550 IDF 78:2006	Gravimetry (drying at 102 °C)	I	<i>Provision update: The Codex standard for Edible casein products refers to water, with a note stating that “The water does not include the water of crystallization of lactose”. Hence the provision “moisture” must be changed to “Water” with</i>

Products	Provisions	Method	Principle	Type	IDF comments
					<i>a reference to the footnote.</i>
Edible casein products	pH	IDF 115A:1989 / ISO 5546:1979	Electrometry	IV	
Edible casein products	Protein (total N x 6.38 in dry matter)	IDF 92:1979 / ISO 5549:1978	Titrimetry, Kjeldahl digestion	IV	
Edible casein products	Sediment (scorched particles)	ISO 5739 IDF 107:2003	Visual comparison with standard disks, after filtration	IV	
Emmental	Calcium >= 800 mg/100g	ISO 8070 IDF 119:2007	Flame atomic absorption	IV	
Evaporated milks	Milk fat	ISO 1737 IDF 13:2008 IDF 13C: 1987 / ISO 1737:1999	Gravimetry (Röse-Gottlieb)	I	<i>Method update</i>
Evaporated milks	Protein	ISO 8968-1/2 IDF 20-1/2:2001 AOAC 945.48H / AOAC 991.20	Kjeldahl, titrimetry	I	<i>Method update</i>
Evaporated milks	Solids, total	IDF 21B:1987 / ISO 6731:1989	Gravimetry (drying at 102 °C)	I	
Fermented milks	Protein	ISO 8968-1/2 IDF 20-1/2:2001 AOAC 991.20	Titrimetry (Kjeldahl)	I	<i>Method update</i>
Fermented milks	Milk fat	ISO 1211 IDF 1:2010 IDF 1D:1996 / ISO 1211:1999 / AOAC 905.02	Gravimetry	I	<i>Method update</i>
Fermented milks – Yoghurt and yoghurt products	<i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i> & <i>Streptococcus thermophilus</i>	ISO 7889 IDF 117:2003	Colony count at 37 °C	I	
Fermented milks – Yoghurt and yoghurt products	<i>Lactobacillus delbrueckii</i> subsp. <i>Bulgaricus</i> & <i>Streptococcus thermophilus</i>	ISO 9232 IDF 146:2003	Test for strain identification	I	

Products	Provisions	Method	Principle	Type	IDF comments
Fermented milks	Dry matter (Total solids)	ISO 13580 IDF 151:2005	Gravimetry (drying at 102 °C)	I	
Fermented milks	Lactic acid (total acidity expressed as lactic acid)	IDF 150:1991 / ISO 11869:1997	Potentiometry, titration to pH 8.30 Spectrophotometry	IV-I	<i>Type update: This method does not have precision figures. Hence, it needs to be a Type IV method.</i>
Fermented milks	Microorganisms constituting the starter culture	ISO 27205 IDF 149:2010 IDF 149A:1997 (Annex A)	Colony count at 25 °C, 30 °C, 37 °C and 45 °C according to the starter organism in question	IV	<i>Method update</i>
<u>Fermented milks</u>	<u>Lactobacillus acidophilus</u>	<u>ISO 20128 IDF 192:2006</u>	<u>Colony count at 37 °C</u>	<u>I</u>	<i>Method proposed for inclusion: The Codex standard 243 has a provision for Lactobacillus acidophilus in Acidophilus Milk</i>
<u>Fermented milks</u>	<u>Colony-forming units of yeasts and/or moulds</u>	<u>ISO 6611 IDF 94:2004</u>	<u>Colony-count at 25 °C</u>	<u>IV</u>	<i>Method proposed for inclusion: The Codex standard 243 has a provision for yeasts in connection with Kefir and Kumys.</i>
Milk powders and cream powders	Milk fat	ISO 1736 IDF 9:2008 IDF 9C:1987 / ISO 1736:2000	Gravimetry (Röse-Gottlieb)	I	<i>Method update</i>
Milk powders and cream powders	Protein (in MSNF ¹)	ISO 8968-1/2 IDF 20-1/2:2001	Titrimetry, Kjeldahl digestion	I	<i>Method update</i>
Milk powders and cream powders	Scorched particles	ISO 5739 IDF 107:2003	Visual comparison with standard disks, after filtration	IV	
Milk powders and cream powders	Solubility <u>Index</u>	ISO 8156 IDF 129:2005	Centrifugation	I	<i>Provision update</i>
Milk powders and cream powders	Acidity, titratable	IDF 86:1981 / ISO 6091:1980	Titrimetry, titration to pH 8.4	I	
Milk powders and cream powders	Water ²	ISO 5537 IDF 26:2004 ³	Gravimetry (drying at 87 102 °C)	I IV	<i>Principle update and Type update: the method has been validated on milk powders so</i>

³ The method has only been validated for milk powders, not for cream powders

Products	Provisions	Method	Principle	Type	IDF comments
Milk fat products	Antioxidants (phenolic)	IDF 165:1993	Reversed phase gradient liquid chromatography	II	<i>it should be Type I instead of Type IV</i>
Milk fat Products	Copper	ISO 5738 IDF 76:2004 AOAC 960.40	Photometry, diethyldithiocarbamate	II	
Milk fat products	Fatty acids, free (expressed as oleic acid)	ISO 1740 IDF 6:2004	Titrimetry	I	
Milk fat products	Milk fat	IDF 24:1964	Gravimetry (calculation from solids-not-fat content and water content)	IV	<i>Principle update</i>
Milk fat Products	Peroxide value (expressed as meq. of oxygen/kg fat)	ISO 3976 IDF 74:2006	Photometry	I	
Milk fat products	Vegetable fat (sterols)	ISO 12078 IDF 159:2006	Gas chromatography	II	
		ISO 18252 IDF 200:2006	Gas chromatography	III	
Milk fat products	<u>Milk fat purity</u>	<u>ISO 17678 IDF 202:2010</u>	<u>Gas liquid chromatography</u>	<u>I</u>	<i>Method proposed for inclusion. See note below</i>
<i>The method allows the user to determine whether the milk fat has been adulterated (above a certain threshold). The scope of the method is not limited to butter, but is applicable to milk fat extracted from a range of milk products. In terms of detecting adulteration practices this standard is an important method to have as practically quantitative results cannot be derived from the sterol content of vegetable fats, because they depend on the production and processing conditions. Also, the qualitative determination of foreign fat using sterols is ambiguous. Furthermore, in contrast to the sterol methods, this standard has a broader scope than just detecting adulteration with vegetable fat as it also detects adulteration with fat from animal origin.</i>					
Milk fat products	Water	ISO 5536 IDF 23:2002 9	Titrimetry (Karl Fischer)	II	<i>Method update Note that in the provision there is no reference to footnote 2, which is correct as Milk fat products contain a negligible amount of MSNF (and thus lactose), and the method measures all water including any water of crystallization of lactose.</i>

Products	Provisions	Method	Principle	Type	IDF comments
Milk fat products (anhydrous milk fat)	Peroxide value	ISO 3976 IDF 74:2006	Photometry	I	
Milk products obtained from fermented milks heat-treated after fermentation	Protein	ISO 8968-1/2 IDF 20-1/2:2001 AOAC 991.20-23	Titrimetry (Kjeldahl)	I	<i>Method update</i>
Mozzarella	Milk fat in dry matter – with high moisture	ISO 1735 IDF 5:2004	Gravimetry after solvent extraction	IV	
Mozzarella	Milk fat in dry matter – with low moisture	ISO 1735 IDF 5:2004	Gravimetry after solvent extraction	IV	
Processed cheese products	Citric acid	ISO/TS 2963 IDF/RM 34:2006	Enzymatic method	IV	
Processed cheese products	Citric acid	AOAC 976.15	Photometry	III	
Processed cheese products	Milk fat	ISO 1735 IDF 5:2004	Gravimetry (Schmid- Bondzynski- Ratzlaff)	I	
Processed cheese products	Phosphate, added (expressed as phosphorus)	IDF 51B:1991	Calculation from phosphorus content and nitrogen content	IV	<i>Principle update</i>
Processed cheese products	Phosphorus	IDF 33C:1987 / ISO 2962:1984	Spectrophotometry (molybdate-ascorbic acid)	II	
Processed cheese products	Salt	ISO 5943 IDF 88:2006 4	Potentiometry (determination of chloride, expressed as sodium chloride)	II	<i>Method update</i>
Sweetened condensed milk	Milk fat	ISO 1737 IDF 13:2008 IDF 13C: 1987 / ISO 1737:1999	Gravimetry (Röse-Gottlieb)	I	<i>Method update</i>
Sweetened and -Condensed Milks	Protein	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 945.48H / AOAC 991.20	Kjeldahl, titrimetry	I	<i>Products update and Method update</i>
Sweetened Condensed Milks	Solids	IDF 15B:1991 / ISO 6734:1989	Gravimetry, drying at 102 °C	I	
Whey cheeses by coagulation	Milk fat	ISO 1735 IDF 5:2004	Gravimetry (Schmid-Bondzynski- Ratzlaff)	I	

Products	Provisions	Method	Principle	Type	IDF comments
Whey cheeses by coagulation	Milk fat in dry matter	ISO 1735 IDF 5:2004 and ISO 5534 IDF 4:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	
			Gravimetry, drying at 102 °C	IV	
			Calculation from fat content and dry matter content	IV	
Whey cheeses by concentration	Milk fat	ISO 1854 IDF 59:2008 59A:1986 / ISO 1854:1999	Gravimetry (Röse Gottlieb)	I	Method update
Whey cheeses by concentration	Milk fat in dry matter	ISO 1854 IDF 59:2008 59A:1986 / ISO 1854:1999 and ISO 2920 IDF 58:2004	Gravimetry (Röse Gottlieb)	I	Method update
			Gravimetry, drying at 88 °C	I	
			Calculation from fat content and dry matter content	I	
Whey powders	Ash	ISO 5545 IDF 90:2008 7	Furnace, 825 °C	IV	Method update
Whey powders	Copper	AOAC 985.35	Atomic absorption spectrophotometry	II	
Whey powders	Copper	ISO 5738 IDF 76:2004	Photometry (diethyldiethiocarbamate)	III	
Whey Powders	Lactose	ISO 5765-1/2 IDF 79-1/2:2002	Enzymatic method: Part 1 - Glucose moiety or Part 2 - Galactose moiety	II	
Whey powders	Lead	AOAC 972.25 (Codex general method)	Atomic absorption spectrophotometry	II	
Whey powders	Milk fat	ISO 1736 IDF 9:2008 IDF 9C:1987 / ISO 1736:2000	Gravimetry (Röse-Gottlieb)	I	Method update
Whey powders	Milk protein	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (modified Kjeldahl)	I	Method update
Whey powders	Moisture, "Free"	ISO 2920 IDF 58:2004	Gravimetry (drying at 88 °C ± 2 °C)	IV	
Whey powders	Protein (total N x 6.38)	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20 IDF 92:1979 / ISO 5549:1978	Kjeldahl, titrimetry Titrimetry, Kjeldahl digestion	I IV	Method update, Principle update And type update.
<i>IDF/ISO note that an extensive validation study is underway to expand the scope of ISO 8968-1/2 IDF 20-1/2:2001 to include a wide range of milk products WMP, SMP, MPC, WPC, casein, caseinates. Hence, an updated version of the standard containing precision figures for these products is expected to be published in 2011.</i>					
Whey powders	Water ²	ISO 5537 IDF 26:2004 / AOAC 927.05	Gravimetry (drying at 87 102 °C)	I	Provision update (note) and Principle update

PART B – METHODS OF SAMPLING BY ALPHABETICAL ORDER OF COMMODITY CATEGORIES AND NAMES

Commodity Standard	Method of Sampling	Notes	IDF comments
Milk and Milk products			
Milk products	IDF 50 ¹⁰ ISO 707 ISO 707 IDF 50:2008	General instructions for obtaining a sample from a bulk	<i>Method update</i>
Milk products	IDF 113 ISO 5538:2004 ISO 5538 IDF 113:2004	Inspection by attributes	<i>Method update</i>
Milk products	IDF standard 136A:1992 ISO 8197:1988	Inspection by variables	<i>Method update</i>

¹⁰ ~~Draft standard which is publicly available~~

List of Methods required in the standards currently being elaborated by CCMMP**A. Processed cheese**

Standards proposed for inclusion in case the standards on processed cheese are to be retained

Processed cheese products	Citric acid	ISO 12082 IDF 52:2006	Calculation from citric acid content	IV
Processed cheese products	Protein	ISO/TS 17837 IDF/RM 25:2008	Titrimetry	IV

References to AOAC and IDF/ISO standards to be deleted in case the Codex standards for Processed cheeses would be revoked

Processed cheese products	Citric acid	ISO/TS 2963 IDF/RM 34:2006	Enzymatic method	IV
Processed cheese products	Citric acid	AOAC 976.15	Photometry	III
Processed cheese products	Milk fat	ISO 1735 IDF 5:2004	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I
Processed cheese products	Phosphate, added (expressed as phosphorus)	IDF 51B:1991	Calculation from phosphorus content and nitrogen content	IV
Processed cheese products	Phosphorus	IDF 33C: 1987 / ISO 2962:1984	Spectrophotometry (molybdate-ascorbic acid)	II
Processed cheese products	Salt	ISO 5943 IDF 88:2006	Potentiometry (determination of chloride, expressed as sodium chloride)	II

B - Fermented Milks Drinks

No other methods than the methods recommended for Fermented Milks has been identified.

IDF/ISO comments to AOAC methods proposed for inclusion

Note: this table is reproducing the information from the CODEX ALINORM 08/31/11 Appendix VIII - LIST OF AOAC METHODS FOR MILK AND MILK PRODUCTS and does not include the latest updates as shown in Appendix 1.

General recommendation

In addition to specific comments included in the table of Appendix 3 below, IDF/ISO would recommend CCMP to request CCMAS to clarify how to deal with methods:

1. *That are no longer updated by a given standardization body, whereas previously equivalent standards by another standardization body are regularly updated, and thus equivalence no longer applies*
2. *That are a Type 1 method by nature, but where a standard from one standardization body does not contain precision figures whereas a standard from another standardization body does contain precision figures.*

For the cases in the table below where equivalence between AOAC standards and IDF/ISO standards is questioned on the basis of the absence of precision figures in AOAC standard, IDF/ISO would recommend CCMP/CCMAS to request AOAC to provide precision figures. If no precision figures can be provided, the decision made to question 2 above should determine the course of action to be taken.

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
Milk products	Iron	NMKL 139 (1991) (Codex general method) AOAC999.10	Atomic absorption spectrophotometry	II	
Milk products	Iron	IDF 103A:1986 / ISO 6732:1985 AOAC 984.27	Photometry (bathophenanthroline) Inductible Couple Plasma, optical emission spectrophotometry	IV II	<i>AOAC 984.27 is for iron (and other minerals) in infant formula. If included, either AOAC 999.10 or 984.27 should be a type III since there can only be one type II method.</i>
Milk products (products not completely soluble in ammonia)	Milk fat	ISO 8262-3 IDF 124-3:2005 AOAC 933.05	Gravimetry (Weibull-Berntrop) Gravimetry (Modified Mojonnier)	I	<i>AOAC 933.05 (last version dates to 1996) is not technically equivalent to ISO 8262-3 IDF 124-3 but was equivalent to the former edition of ISO 1735 IDF 5 (but not to its current version). Also AOAC 933.05 does not have reproducibility values. IDF/ISO does not recommend inclusion of AOAC 933.05 for this provision.</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
Blend of evaporated skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999 AOAC 905.02	Gravimetry (Röse-Gottlieb)	IV	AOAC 905.02 has been replaced by 989.05, which was equivalent to former edition of ISO 1211/IDF 1 (but not to its current version). AOAC 989.05 has been validated for the determination of the fat content of <u>liquid milk</u> , but not for evaporated milks, whereas ISO 1737 IDF 13:2008 has been validated for evaporated milks and condensed milks. The methods use the same principle, but AOAC 989.05 lacks instructions for sample preparation of evaporated milks. Also AOAC 989.05 only gives precision figures applicable to liquid milk as 3.6 % fat, whereas ISO 1737 IDF 13:2008 gives precision figures for evaporated milks and condensed milk having fat contents in the range of <1%, 1-4%, 4-10% and >10% (w/w). Hence, AOAC method is not equivalent to ISO 1737 IDF 13:2008
Blend of evaporated skimmed milk and vegetable fat	Milk solids-not-fat (MSNF)	IDF 21B:1987 / ISO 6731:1989 / AOAC 990.01 and IDF 13C:1987/ISO 1737:1999/ AOAC 905.02	Calculation from total solids content and fat contents Gravimetry (Röse-Gottlieb)	IV	AOAC 990.01 is a wrong AOAC reference as its title is: Nicotine in Environmental Tobacco Smoke. AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat.
Blend of evaporated skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	AOAC 991.20 is equivalent to ISO 8968-1/2 IDF 20:1/2.
Reduced fat blend of evaporated skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999/ AOAC 905.02	Gravimetry (Röse-Gottlieb)	IV	AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat
Reduced fat blend of evaporated skimmed milk and vegetable fat	MSNF4	IDF 21B:1987 / ISO 6731:1989 / AOAC 990.01 and	Calculation from total solids and fat contents Gravimetry (Röse-Gottlieb)	IV	AOAC 990.01 is a wrong AOAC reference

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
		IDF 13C:1987/ISO 1737:1999/ AOAC 905.02			AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat.
Reduced fat blend of Evaporated skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	AOAC 991.20 is equivalent to ISO 8967-1/2 IDF 20-1/2.
Blend of skimmed milk and vegetable fat in powdered form	Total fat	IDF 9C:1987/ISO 1736:2000/ AOAC 905.02	Gravimetry (Röse-Gottlieb)	IV	AOAC 905.02 - AOAC 989.05 has been validated for the determination of the fat content of <u>liquid milk</u> , but not for skim milk powders, whereas ISO 1736 IDF 9:2008 has been validated for a wide range of milk powders, including dried milk with a fat content of 40% mass fraction or more, dried whole, dried partially skimmed, and dried skimmed milk, dried buttermilk and dried butter serum. The methods use the same principle, but AOAC 989.05 lacks instructions for sample preparation of dried milks. Also AOAC 989.05 only gives precision figures applicable to liquid milk as 3.6 % fat, whereas ISO 1736 IDF 9:2008 gives precision figures for three categories of products; (1) dried high-fat milk and dried whole milk; (2) dried partially skimmed milk and dried buttermilk; (3) dried skimmed milk and dried whey.
Blend of skimmed milk and vegetable fat in powdered form	Water	ISO 5537 IDF 26:2004 / AOAC 927.05	Gravimetry, drying at 87 °C / 100 °C	IV	AOAC 927.05 is not equivalent to ISO 5537 IDF 26, which has been technically revised. The revised method is based on a different drying technique with new precision figures.
Blend of skimmed milk and vegetable fat in powdered form	Milk protein in MSNF	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	AOAC 991.20 is equivalent to ISO 8967-1/2 IDF 20-1/2.
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Total fat	IDF 9C:1987/ISO 1736:2000/ AOAC 989.05	Gravimetry (Röse-Gottlieb) / Gravimetry (Modified Mojonnier)	IV	See comments for Blend of skimmed milk and vegetable fat in powdered form, Total fat

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Water (moisture)	ISO 5537 IDF 26:2004 / AOAC 927.05	Gravimetry, drying at 87 °C / 100 °C	IV	See comments for Blend of skimmed milk and vegetable fat in powdered form, Water.
Reduced fat blend of skimmed milk powder and vegetable fat in powdered form	Milk protein in MSNF4	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	AOAC 991.20 is equivalent to ISO 8967-1/2 / IDF 20-1/2.
Blend of sweetened condensed skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999/ AOAC 905.02	Gravimetry (Röse-Gottlieb)	IV	AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat
Blend of sweetened condensed skimmed milk and vegetable fat	Milk solids-not-fat (MSNF)	IDF 15B:1991 / ISO 6734:1989 / AOAC 990.19 and IDF 13C:1987/ISO 1737:1999 / AOAC 905.02	Calculation from total solids content and fat contents Gravimetry (Röse-Gottlieb)	IV	AOAC 990.19 was validated for milk (not using sand), whereas IDF 15B:1991 / ISO 6734:1989 has been validated specifically for sweetened condensed milk using drying on sand. In contrast to IDF 15B:1991 / ISO 6734:1989, AOAC 990.19 does not contain precision figures that apply to sweetened condensed milk. AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat
Blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	AOAC 991.20 is equivalent to ISO 8967-1/2 / IDF 20-1/2
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Total fat <= 8% m/m >= 1% m/m	IDF 13C:1987/ISO 1737:1999/ AOAC 905.02	Gravimetry (Röse-Gottlieb)	IV	AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat.
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	MSNF>= 20% m/m	IDF 15B:1991 / ISO 6734:1989 / AOAC 990.19 and IDF 13C:1987/ISO 1737:1999/ AOAC 905.02	Calculation from total solids and fat Gravimetry (Röse-Gottlieb)	IV	AOAC 990.19 was validated for milk (not using sand), whereas IDF 15B:1991 / ISO 6734:1989 has been validated specifically for sweetened condensed milk using drying on sand. In contrast to IDF 15B:1991 / ISO 6734:1989, AOAC 990.19 does not contain precision figures that apply to sweetened condensed milk.

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CC MMP
					<i>AOAC 905.02 - See comment above for Blend of evaporated skimmed milk and vegetable fat, Total fat.</i>
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2 IDF 20-1/2:2001 / AOAC 991.20	Titrimetry (Kjeldahl)	IV	<i>AOAC 991.20 is equivalent to ISO 8967-1/2 IDF 20-1/2</i>
Butter	Salt	ISO 1738 IDF 12:2004 / AOAC 960.29	Titrimetry (Mohr: determination of chloride, expressed as sodium chloride)	III	<i>In contrast to ISO 1738 IDF 12:2004, AOAC 960.29 does not contain repeatability and reproducibility figures. If CC MMP agrees on inclusion, IDF/ISO do not recommend inclusion of this method as type III but as type IV.</i>
Butter	Water	ISO 3727-1 IDF 80-1:2001 / AOAC 920.116	Gravimetry	I	<i>AOAC 920.116 was equivalent to former edition of ISO 3727-1 IDF 80-1, but not to its present version. AOAC 920.116 does not contain repeatability and reproducibility figures. IDF/ISO do not recommend inclusion of this method.</i>
Cheese	Citric acid	ISO/TS 2963 IDF/RM 34:2006	Enzymatic method	IV	
Cheese	Citric acid	AOAC 976.15	Photometry	II	
Cheese	Milk fat	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff) / (Modified Mojonnier)	I	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Cheese	Moisture	ISO 5534 IDF 4:2004 / AOAC 926.08	Gravimetry, drying at 102 °C	I	<i>AOAC 926.08 is not equivalent to ISO 5534 IDF 4. It uses drying at 100°C in a vacuum oven whereas ISO 5534 IDF 4 uses 102°C in forced air oven. AOAC 926.08 does not contain repeatability and reproducibility figures.</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
Cheeses, individual	Milk fat in dry matter	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry after solvent extraction	I	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Cheeses, individual	Dry matter (Total solids)	ISO 5534 IDF 4: 2004 / AOAC 926.08	Gravimetry, drying at 102 °C	I	<i>AOAC 926.08 is not equivalent to ISO 5534 / IDF 4. It uses drying at 100°C in a vacuum oven whereas ISO 5534 IDF 4 uses 102°C in forced air oven. AOAC 926.08 does not contain repeatability and reproducibility figures.</i>
Cheeses in brine	Milk fat in dry matter (FDM)	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff) / (Modified Mojonnier)	I	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Cottage cheese	Fat-free dry matter	ISO 5534 IDF 4:2004 / AOAC 926.08 and AOAC 933.05	Gravimetry, drying at 102 °C Calculation from dry matter and fat contents	IV	<i>AOAC 926.08 is not equivalent to ISO 5534 / IDF 4. It uses drying at 100°C in a vacuum oven whereas ISO 5534 IDF 4 uses 102°C in forced air oven. AOAC 926.08 does not contain repeatability and reproducibility figures. In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Cottage cheese	Milk fat	ISO 1735 IDF 5:2004 AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff) Gravimetry (Modified Mojonnier)	IV	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Cottage cheese	Milk fat in dry matter	ISO 8262-3 IDF 124-3:2005 / AOAC 933.05	Gravimetry (Weibull-Berntrop) / (Modified Mojonnier)	IV	<i>AOAC 933.05 (last version dates to 1996) is not technically equivalent to ISO 8262-3 IDF 124-3 but was equivalent to the former edition of ISO 1735 IDF 5 (but not to its current version). Also AOAC 933.05 does not have reproducibility values. IDF/ISO do not recommend inclusion of AOAC 933.05 for this provision.</i>
Cheese, unripened including fresh cheese	Protein	ISO 8968-1 IDF 20-1:2001 AOAC 991.20-23	Titrimetry, Kjeldahl	I	<i>AOAC 2001.14 is not equivalent to ISO 8968-1/2 / IDF 20-/21 but AOAC 991.20 and 991.23 are.</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
		2001.14			
Cream	Milk fat	IDF 16C:1987/ISO 2450:1999 AOAC 920.111	Gravimetry (Röse-Gottlieb)	I	AOAC 920.111 does not contain precision figures, but AOAC 995.19 does. The latter is equivalent to ISO 2450 IDF 16:2008.
Cream	Solids	IDF 21B:1987 / ISO 6731:1989 / AOAC 920.107	Gravimetry (drying at 102 °C)	I	AOAC 920.107 is equivalent to IDF 21B and ISO 6731.
Cream cheese	Dry matter	ISO 5534 IDF 4:2004 / AOAC 926.08	Gravimetry drying at 102 °C	IV	See comment for Cheese, moisture.
Cream cheese	Moisture on fat free basis	ISO 5534 IDF 4:2004 / AOAC 926.08	Gravimetry drying at 102°C	IV	See comment for Cheese, moisture.
		ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff)	IV	In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.
			Calculation from fat content and moisture content	IV	
Dairy fat spreads	Total fat	ISO 17189 IDF 194:2003 / AOAC 933.05	Gravimetry, Direct determination of fat using solvent extraction	I	AOAC 933.05 is not equivalent to ISO 17189 IDF 194 and is not suitable for the determination of fat content in spreads (see Evers et al (2000), International Dairy Journal, 10, 815-827). AOAC 933.05. AOAC 933.05 was equivalent to former edition of ISO 1735 IDF 5 but not to its present version. In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures. IDF/ISO do not recommend inclusion of AOAC 933.05 for this provision.
Edible casein products	Lead	NMKL 139 (1991) (Codex general method) / AOAC 999.10	Atomic absorption spectrophotometry	III	
Edible casein products	Milk fat	ISO 5543 IDF 127:2004 / AOAC 932.06	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	AOAC 932.06: "Fat in dried milk" is not equivalent to ISO 5543 IDF 127. IDF/ISO do not recommend inclusion of this method.

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMMMP
Edible casein products	Moisture	ISO 5550 IDF 78:2006 / AOAC 927.05	Gravimetry (drying at 102 °C)	I	AOAC 927.05 is not equivalent to ISO 5550 IDF 78:2006. It uses drying at 100°C in a vacuum oven whereas ISO 5550 IDF 78:2006 uses 102°C in forced air oven. The scope of AOAC 927.05 is for dried milk, whereas the scope of ISO 5550 IDF 78 specifically is for caseins and caseinates. In contrast to ISO 5550 IDF 78:2006, AOAC 927.05 does not contain precision figures.
Edible casein products	Protein (total N x 6.38 in dry matter)	IDF 92:1979 / ISO 5549:1978 / AOAC 930.29	Titrimetry, Kjeldahl digestion	IV	AOAC 930.29 has a different scope and is not equivalent to IDF 92 and ISO 5549. IDF/ISO do not recommend inclusion of this method.
Evaporated milks	Milk fat	IDF 13C:1987/ISO 1737:1999/ AOAC 932.06	Gravimetry (Röse-Gottlieb)	I	AOAC 932.06 is the same principle as ISO 1737 IDF 13:2008. However, AOAC 932.06 does not contain reproducibility figures, whereas ISO 1737 IDF 13:2008 gives precision figures for evaporated milks and condensed milk having fat contents in the range of <1%, 1-4%, 4-10% and >10% (w/w/).
Fermented milks	Milk fat	IDF 1D:1996/ISO 1211:1999 / AOAC 905.02 989.05	Gravimetry	I	Compared to IDF 1D:1996/ISO 1211:1999, the recently revised standard ISO 1211 IDF 1:2010 has an expanded scope to include cow milk, sheep milk and goat milk. It also includes precision figures for each of these species of milk based on recent collaborative studies as well as precision figures for full fat cow milk, reduced fat cow milk and skimmed cow milk. AOAC 989.05 does not contain such precision figures.
Fermented milks	Dry matter (Total solids)	ISO 13580 IDF 151:2005 / AOAC 990.19	Gravimetry (drying at 102 °C)	I	AOAC 990.19 is not equivalent to ISO 13580 IDF 151:2005. AOAC 990.19 is validated for total solids in milk, whereas ISO 13580 IDF 151 is validated for yoghurts. The principle of AOAC 990.19 is based on forced air oven drying after steam table predry. The principle of ISO 13580 IDF 151 is also based on forced air oven

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMMP
					<i>drying following steam bath predry, but the sample is mixed with zinc oxide and the lactic acid content is determined to compensate for the loss of water resulting from neutralizing the yoghurt by means of the zinc oxide.</i>
Fermented milks	Lactic acid (total acidity expressed as lactic acid)	IDF 150:1991 / ISO 11869:1997 / AOAC 937.05	Potentiometry, titration to pH 8.30 Spectrophotometry	I	<i>As is evident from the different principles for the respective methods, AOAC 937.05 is not equivalent IDF 150 and ISO 11869. IDF 150 / ISO 11869 has been validated for yoghurt. AOAC 937.05 has been validated for milks and milk products.</i>
Milk powders and cream powders	Milk fat	IDF 9C:1987/ISO 1736:2000/ AOAC 932.06	Gravimetry (Röse-Gottlieb)	I	<i>AOAC 932.06 is the same principle as ISO 1736/IDF 9:2008. However, AOAC 932.06 does not contain reproducibility figures, whereas ISO 1736 IDF 9:2008 gives precision figures for three categories of products; (1) dried high-fat milk and dried whole milk; (2) dried partially skimmed milk and dried buttermilk; (3) dried skimmed milk and dried whey.</i>
Milk powders and cream powders	Protein (in MSNF)	ISO 8968-1 IDF 20-1:2001 / AOAC 991.20	Titrimetry, Kjeldahl digestion	I	<i>AOAC 991.20 is equivalent to ISO 8967-1/2 \ IDF 20-1/2</i>
Milk fat products	Vegetable fat (sterols)	ISO 12078 IDF 159:2006	Gas chromatography	II	
		ISO 18252 IDF 200:2006 AOAC 970.50	Gas chromatography Gas liquid chromatography	III	<i>AOAC 970.50 is not equivalent to either of the ISO/IDF standards. Originally AOAC 970.50 was equal to IDF 54 and ISO 3594 which was replaced by the aforementioned methods. Note also that IDF/ISO have recommended the use of <u>ISO 17678/IDF 202:2010 for the determination of milk fat purity.</u></i>
Milk products obtained from fermented milks heat-treated after	Protein	ISO 8968-1 IDF 20-1:2001 AOAC 991.20- 23	Titrimetry (Kjeldahl)	I	<i>AOAC 991.20 is equivalent to ISO 8967-1/2 IDF 20-1/2</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMMP
fermentation					
Mozzarella	Milk fat in dry matter – with high moisture	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry after solvent extraction	IV	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Mozzarella	Milk fat in dry matter – with low moisture	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry after solvent extraction	IV	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Processed cheese products	Milk fat	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff) / (Modified Mojonnier)	I	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Processed cheese products	Salt	ISO 5943 IDF 88:2006 / AOAC 935.43	Potentionmetry (determination of chloride, expressed as sodium chloride)	II	<i>AOAC 935.43 is based on the Volhard method and is not equivalent to ISO 5973 IDF 88:2006, which is based on a potentiometric titration. In contrast to ISO 5973 IDF 88:2006, AOAC 935.43 does not contain precision figures.</i>
Sweetened condensed milk	Milk fat	IDF 13C:1987/ISO 1737:1999/ AOAC 932.06	Gravimetry (Röse-Gottlieb)	I	<i>AOAC 932.06 does not explicitly include “sweetened condensed milk in its scope” AOAC 932.06 is based on the same principle as ISO 1737 IDF 13:2008. However, ISO 1737 IDF 13:2008 has been validated specifically for evaporated milks and condensed milks. AOAC 932.06 does not contain reproducibility figures whereas ISO 1737 IDF 13:2008 gives precision figures for evaporated milks and condensed milk having fat contents in the range of <1%, 1-4%, 4-10% and >10% (w/w/).</i>
Sweetened Condensed Milks	Solids	IDF 15B:1991 / ISO 6734:1989 / AOAC 990.19	Gravimetry, drying at 102 °C	I	<i>AOAC 990.19 was validated for milk (not using sand), whereas IDF 15B:1991 / ISO 6734:1989 has been validated specifically for sweetened condensed milk using drying on sand. In contrast to IDF 15B:1991 / ISO 6734:1989, AOAC 990.19 does not contain precision figures that apply to sweetened condensed milk.</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CCMP
Whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999/ AOAC 933.05 And ISO 2920 IDF 58:2004 / AOAC 926.08	Calculation from fat content and dry matter content	I	<i>AOAC 933.05 is based on the SBR principle and is suitable to cheeses in general, whereas ISO 1854 / IDF 59:2008 is based on the Roese Gottlieb principle and is specifically validated for whey cheese. In contrast to ISO 18545 IDF 59:2008, AOAC 933.05 does not contain reproducibility figures.</i> <i>AOAC 926.08 is applicable to cheeses in general, whereas ISO 2920 IDF 58:2004 is validated specifically for whey cheese. AOAC 926.08 is not equivalent to ISO 2920 IDF 58:2004 as the former method uses drying at 100°C in a vacuum oven whereas the latter method uses drying at 88°C.</i> <i>In contrast to ISO 2920 IDF 58:2004, AOAC 926.08 does not contain repeatability and reproducibility figures.</i> <i>IDF/ISO do not recommend inclusion of this method.</i>
Whey cheeses by concentration	Milk fat	IDF 59A:1986/ISO 1854:1999/ AOAC 933.05	Gravimetry (Röse Gottlieb) Gravimetry (Modified Mojonier)	I	<i>AOAC 933.05 is based on the SBR principle and is suitable to cheeses in general, whereas ISO 1854 / IDF 59:2008 is based on the Roese Gottlieb principle and is specifically validated for whey cheese. In contrast to ISO 18545 IDF 59:2008, AOAC 933.05 does not contain reproducibility figures.</i> <i>IDF/ISO do not recommend inclusion of this method.</i>
Whey cheeses by coagulation	Milk fat	ISO 1735 IDF 5:2004 / AOAC 933.05	Gravimetry (Schmid-Bondzynski-Ratzlaff)	I	<i>In contrast to ISO 1735 IDF 5:2004, AOAC 933.05 does not contain reproducibility figures.</i>
Creamed whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999/ AOAC 933.05 And ISO 2920 IDF 58:2004 / AOAC 926.08	Calculation from fat content and dry matter content	I	<i>See comments above for whey cheese, Fat on the dry basis.</i> <i>Note also that at CCMP 2008 (endorsed CCMAS 2008), the entries for whey cheeses in Codex 234 were rearranged and that this entry</i>

Products	Provisions	Method	Principle	Type	IDF/ISO comments and recommendations to CC MMP
Skimmed whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999/ AOAC 933.05 And ISO 2920 IDF 58:2004 / AOAC 926.08	Calculation from fat content and dry matter Content	I	<i>was deleted.</i> <i>See comments above for whey cheese, fat on the dry basis</i> <i>Note also that at CC MMP 2008 (endorsed CCMAS 2008), the entries for whey cheeses in Codex 234 were rearranged and that this entry was deleted.</i>
Whey powders	Milk fat	IDF 9C:1987/ISO 1736:2000/ AOAC 932.06	Gravimetry (Röse-Gottlieb)	I	<i>AOAC 932.06 is the same principle as ISO 1736/IDF 9:2008. However, AOAC 932.06 does not contain reproducibility figures, whereas ISO 1736 IDF 9:2008 gives precision figures for three categories of products; (1) dried high-fat milk and dried whole milk; (2) dried partially skimmed milk and dried buttermilk; (3) dried skimmed milk and dried whey.</i>
Whey powders	Protein (total N x 6.38)	IDF 92:1979 / ISO 5549:1978 / AOAC 930.29	Titrimetry, Kjeldahl digestion	IV	<i>This reference may be replaced by ISO 8968-1/2 IDF 20-1/2:2001 (see proposal in Appendix 1) and AOAC 991.20</i> <i>AOAC 930.29 is not equivalent to IDF 92 / ISO 5549.</i>

Comments received from Argentina in reply to CL 2008/2-MMP

Argentina appreciates the opportunity to provide these comments on Appendix VII Alinorm 08/31/11 (CL 2008/2MMP) - UPDATED LIST OF METHODS OF ANALYSIS AND SAMPLING FOR CODEX STANDARDS FOR DAIRY PRODUCTS

For comments to be provided as clearly as possible, they have been included in the table below:

Blend of evaporated skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products.
Blend of evaporated skimmed milk and vegetable fat	Milk solids not fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Reduced fat blend or evaporated skimmed milk an vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Reduced fat blend or evaporated skimmed milk an vegetable fat	Milk solids not fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Blend of skimmed milk and vegetable fat in powered form	Total fat	IDF 9C:1987/ISO 1736:2000	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1736/IDF 009:2008.
Blend of skimmed milk and vegetable fat in powered form	Water	ISO 5537/IDF 26:2004.	The scope does not include vegetable fat-added products.
Blend of skimmed milk and vegetable fat in powered form	Milk protein in MSNF	ISO 8968-1/2/IDF 20-1/2:2001	The scope does not include vegetable fat-added products.
Reduced fat blend of skimmed milk powered and vegetable fat in powered form	Total fat	ISO 9C:1987/ISO 1736:2000	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1736/IDF 009:2008.
Reduced fat blend of skimmed milk powered and vegetable fat in powered form	Water	ISO 5537/IDF 26:2004	The scope does not include vegetable fat-added products.
Reduced fat blend of skimmed milk powered and vegetable fat in powered form	Milk protein in MSNF	ISO 8968-1/2/FIL 20-1/2:2001	The scope does not include vegetable fat-added products.
Blend of sweetened condensed skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.

Blend of sweetened condensed skimmed milk and vegetable fat	Sucrose	ISO 2911/IDF 35:2004	The scope does not include vegetable fat-added products.
Blend of sweetened condensed skimmed milk and vegetable fat	Milk solids not fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2/IDF 20-1/2:2001	The scope does not include vegetable fat-added products.
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Total fat	IDF 13C:1987/ISO1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Milk solids not fat	IDF 13C:1987/ISO 1737:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Reduced fat blend of sweetened condensed skimmed milk and vegetable fat	Milk protein in MSNF	ISO 8968-1/2/IDF 20-1/2:2001	The scope does not include vegetable fat-added products.
Cream	Total fat	IDF 16C:1987/ISO 2450:1999	The scope does not include vegetable fat-added products. The standard is not in force; it has been replaced with ISO 2450/IDF 016:2008.
Crems lowered in milk fat content	Milk fat	IDF 16C:1987/ISO 2450:1999	The standard is not in force; it has been replaced with ISO 2450/IDF 016:2008.
Evaporated milks	Milk fat	IDF 13C:1987/ISO 1737:1999	The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Milk powders and cream powders	Milk fat	ISO 9C:1987/ISO 1736:2000	The standard is not in force; it has been replaced with ISO 1736/IDF 009:2008.
Milk powders and cream powders	Solubility	ISO 8156/IDF 129:2005	“Solubility” should be replaced with “Solubility Index” as this is what is actually determined.
Processed cheese products	Salt	ISO 5943/IDF 88:2004	“2004” should be replaced with “2006”.
Sweetened condensed milk	Milk fat	IDF 13C:1987/ISO 1737:1999	The standard is not in force; it has been replaced with ISO 1737/IDF 013:2008.
Whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999 not in force	The standards have been replaced with ISO 1854/IDF 059:2008.
Whey cheese	Milk fat, in dry matter	IDF 59A:1986/ISO 1854:1999 not in force	The standards have been replaced with ISO 1854/IDF 059:2008.
Whey cheese including whey cheeses by concentration)	Total Fat	IDF 59A:1986/ISO 1854:1999 not in force	The standards have been replaced with ISO 1854/IDF 059:2008.
Creamed whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999	The standards have been replaced with ISO 1854/IDF 059:2008.

			It is suggested that “Creamed whey cheese” be translated as “Queso de suero con crema” instead of “Queso de suero cremoso” in the Spanish version.
Skimmed whey cheese	Fat on the dry basis	IDF 59A:1986/ISO 1854:1999	The standards have been replaced with ISO 1854/IDF 059:2008.
Whey powders	Lactose	ISO 5765-1/2/IDF 79-1/2:2002	The scope of the standard does not include powders.
Whey powders	Milk fat	ISO 9C:1987/ISO 1736:2000	The standards have been replaced with ISO 1736/IDF 009:2008
Whey powders	Water	ISO 5537/IDF 26:2004	The scope of the standard does not include powders.
Milk fat products	Vegetable fat (sterols)	IDF 54:1979/ISO 3594:1976	“1976” should be replaced with “IDF 54:1970”. “Gas liquid chromatography” should be replaced with “Phytosteryl acetate test”. The name of the standard is incorrect.
Milk fat products	Vegetable fat	ISO 32:1965/ISO 3595:1976	ISO 32:1965 is no longer in force and ISO 3595:1976 is not in the Catalogue. We propose to replace the standard with a more recent one: ISO 17678/IDF 202. “Phytosteryl acetate test” should be replaced with “Gas liquid chromatography”. The name of the standard is incorrect.
Butter	Vegetable fat	ISO 17678/IDF 202	The standard was not available for comment.
Butter	Vegetable fat	ISO 32:1965/ISO 3595:1976 Standard AOAC 955.34A	ISO 32:1965 is no longer in force, and ISO 3595:1976 is not in the Catalogue.
Processed cheese	Protein	ISO /TS/IDF/RM 25:2007	We suggest the adoption of the specific standard for the determination of the protein content in dairy products: ISO 8968-1/2/IDF 20-1/2:2001.