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DETERMINATION OF FAT CONTENT IN CHEESE

Method comparison overview based on Cecalait® proficiency tests results

Two main principles are generally used for the determination of fat content in cheese:

- The first principle involves extraction following acid attack: the extraction reference method, SBR (Schmid-Bondzynski-Ratzlaff), is standardised at international level: ISO 1735 / IDF 5.
- The second is acido-butyrometry, which involves two distinct methods: the Van Gulik (VG) method and the Heiss method. Both these methods are standardised at French level with (AFNOR) NF V 04-287: part 1 for the Van Gulik method and part 2 for the Heiss method. The Van Gulik method is more often applied to fromage frais, soft cheese and processed cheese. The Heiss method is principally applied to hard cheese and hard cooked cheese (as the higher dissolution temperature, 85°C, is more appropriate for this type of cheese). The butyrometers are the same for both these methods are also standardised at French level (NF B 35-530).

NB: The Van Gulik method is also standardised at international level (ISO 3433).

The relation between both these methods has been observed for many years and a difference between the acido-butyrometric methods and the extraction method has always been noted. The AFNOR V 04 milk and dairy products Commission has integrated this project into its work programme, firstly to evaluate the deviations with different types of cheese, and secondly to find solutions.

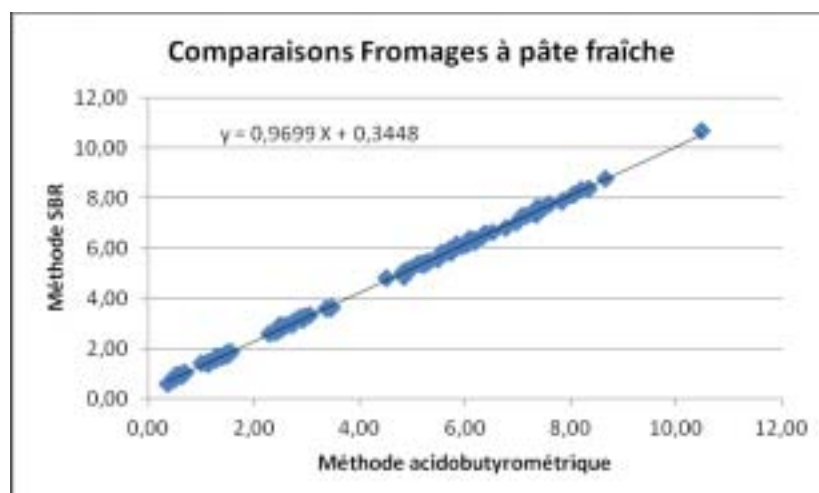
A first inventory was carried out on the basis of Cecalait® proficiency tests results from 2003 to 2011 on three types of cheese: fromage frais, soft cheese and hard cooked and non-cooked cheese. In practice, the laboratories use either the SBR extraction method or a butyrometric method (the method applied depends on the cheese analysed: mainly VG for fromages frais, Heiss for hard cheese and both methods for soft cheese). Nevertheless, within the context of proficiency tests, the Heiss method is being increasingly used by laboratories due to the more rapid dissolution of the cheese in the butyrometer and its greater reliability.

The statistical data from tests carried out for each group of methods (extraction and acido-butyrometric) between 2003 and 2011 were used for the comparisons described below. The Van Gulik and Heiss methods were grouped in an "acido-butyrometric" reference, even if the mean difference of each method in relation to the extraction method is slightly different (about 0.1 g/100 g). This approach was chosen firstly because the traceability of the method used is not always ensured, and secondly, differentiated action in the long run within the regulatory framework will be undoubtedly difficult considering the same butyrometer is used for both methods (and is partly responsible for the difference).

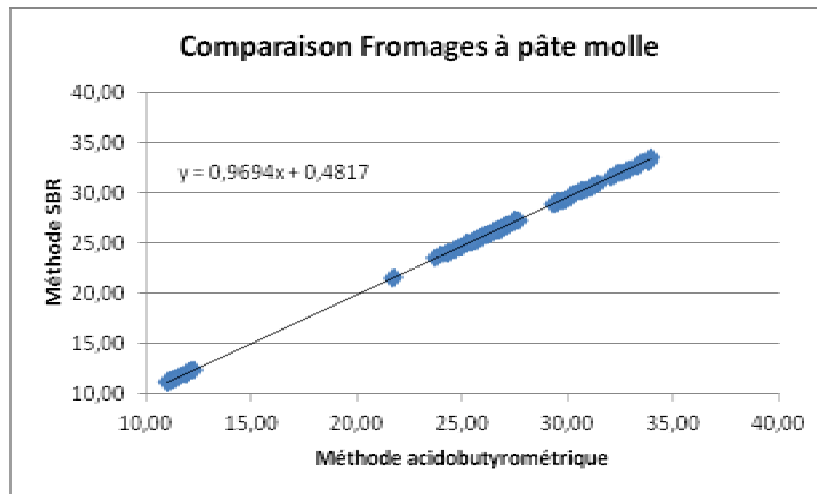
Firstly, comparisons of data were made per cheese type, then with all the cheeses on the basis of a simple linear regression with the SBR extraction method being taken as the reference (Y), and the acido-butyrometric methods (X) as the methods to be evaluated.

- Fromages frais

The regression equation $Y = 0.9666 X + 0.3448$ was obtained between the methods (see graph below) with a mean difference of -0.22 g of fat/100 g for this type of cheese (Extraction: 4.24 g/100 g – Acido-butyrometry: 4.02 g/100 g).

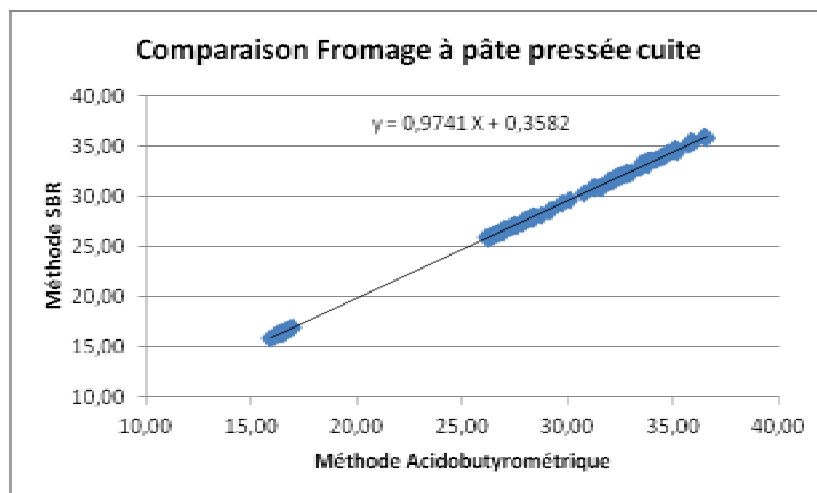


- Soft cheese



The regression equation $Y = 0.9694 X + 0.4817$ was obtained between the methods (see graph above) with a mean difference of +0.30 g of fat/100 g for this type of cheese (Extraction: 25.23 g/100 g – Acido-butyrometry: 25.53 g/100 g)

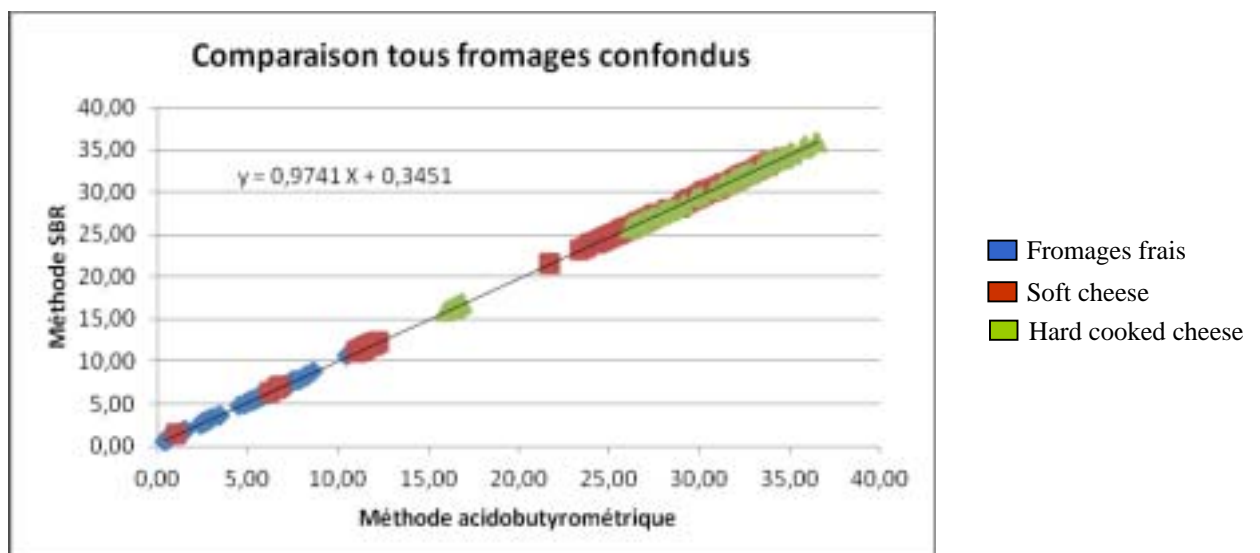
- Hard cooked cheese



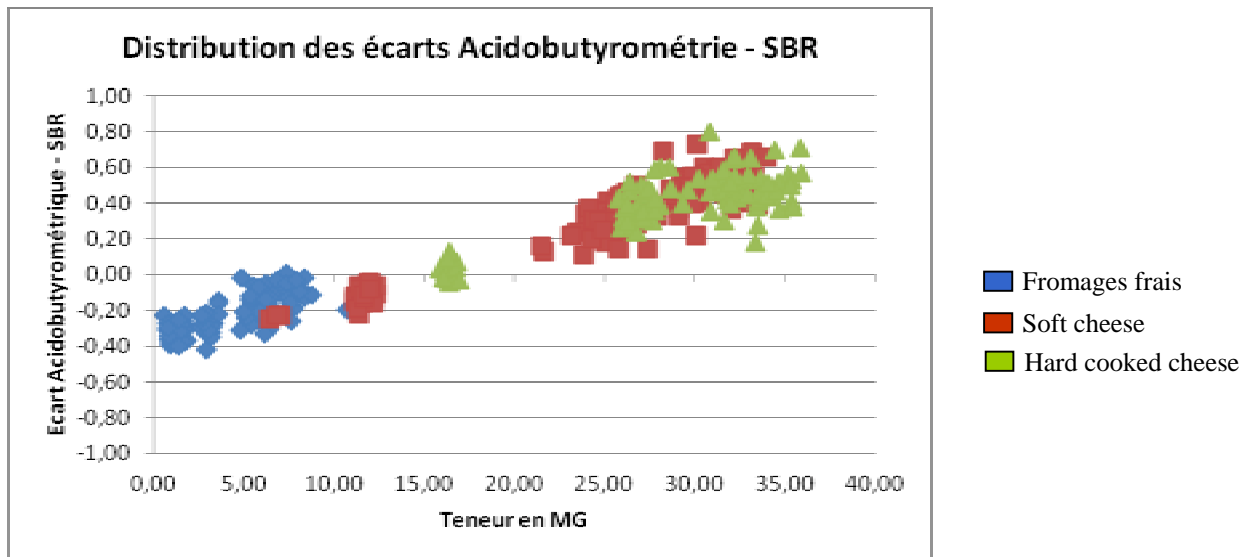
The regression equation $Y = 0.9741 X + 0.3582$ was obtained between the methods (see graph above) with a mean difference of +0.39 g of fat/100 g for this type of cheese (Extraction: 28.56 g/100 g – Acido-butyrometry: 28.95 g/100 g)

- All the cheeses

- Total regression



- *Diagram of residuals*

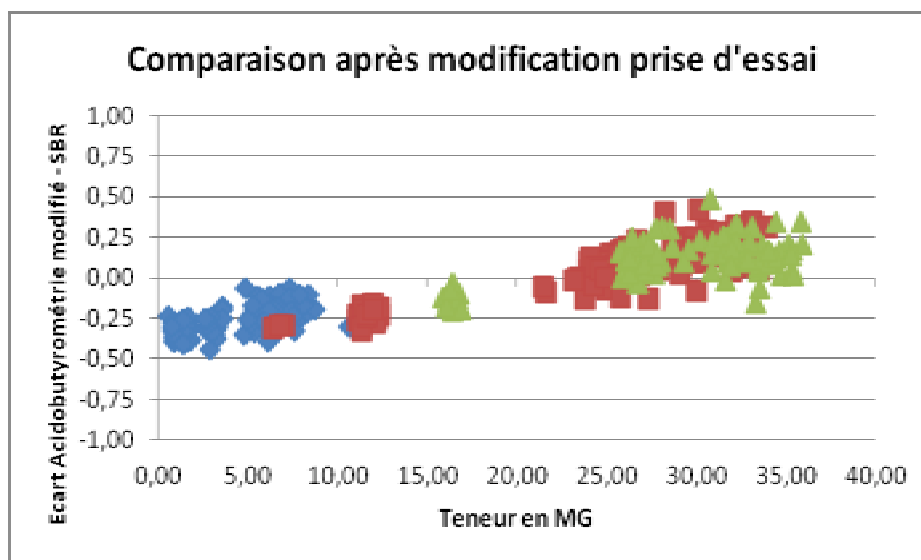


When all the various cheese types were integrated in the regression, an equation between the methods $Y = 0.9741 X + 0.3451$ was obtained with a mean deviation of $+0.18 \text{ g} / 100 \text{ g}$. Deviations from $-0.40 \text{ g} / 100 \text{ g}$ to $+0.80 \text{ g} / 100 \text{ g}$ of cheese were observed which are closely linked to the fat concentration of the product.

If we look at each regression equation obtained independently for the three types of cheese, the regression slopes are very close, almost equivalent to the regression slope obtained with the data from all the cheeses (even if the mean differences are different). It can be concluded that the difference observed between both methods is linked entirely to the fat content of the product and is independent of the cheese type (no specific difference with the type of cheese was observed).

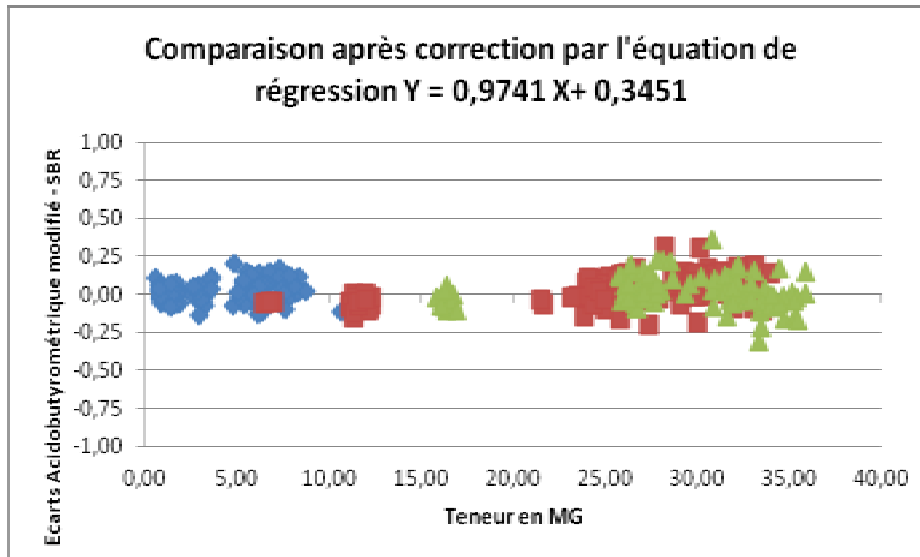
On the basis of these results, two working hypotheses have been examined to propose a solution to link the acidobutyrometric methods to the extraction method:

- To adopt a different test sample of 3 g, calculated according to the mean difference observed between the methods to obtain a mean difference of zero (2.972 g rounded down to 2.970 g for this study). A corrective factor was then applied to the results obtained using the acido-butyrometric method and we observed the deviations between the methods. These data are presented in the graph below:



Although after correction of the results an improvement and a decrease in the deviations between the methods was observed (about -0.40 to $+0.40 \text{ g} / 100 \text{ g}$), this type of modification to the operating procedure does not enable the difference observed to be resolved over the entire fat content range within the field of application of the method tested.

- To apply a correction equation on all the cheeses and on the entire fat content range (0 to $40 \text{ g} / 100 \text{ g}$).



Applying a correction equation ensures the traceability between the methods in all fields of application of the method. No systematic difference specific to cheese types tested was observed. The accuracy estimate (calculated by $2.Sy,x$: residual standard deviation of regression) of the acido-butyrometric method in relation to the SBR reference method is ± 0.18 g / 100 g.

CONCLUSION

Both these working ideas offer advantages and disadvantages:

- With both these solutions, it is not necessary to modify the graduations of the butyrometers and thus they do not need to be changed in every laboratory.
- A modified test sample can only be applied to a very small fat content range. Then, the slope error of the acido-butyrometric method cannot be corrected (specific test sample per low range of fat content according to the product).
- Applying an equation (which is not easy in practice) ensures the link between the methods over the entire fat content range for all the cheeses. This type of correction is already applied for the determination of the fat content in skimmed milk.

The results obtained were presented and both these working ideas examined at the AFNOR Commission in March 2012. Discussions are continuing in order to ensure the correlation between both methods in 2012.

STANDARDS - REGULATIONS

STANDARDS, DRAFT STANDARDS

Classification in alphabetical order by theme

ISO standards under development

METROLOGY	
ISO/CEI DIS GUIDE 98-4 Mai 2012	Incertitude de mesure – Partie 4 : rôle de l'incertitude de mesure dans l'évaluation de la conformité
MICROBIOLOGY OF FOOD AND ANIMAL FEED	
ISO/DIS 4833-1 July 2012	MICROBIOLOGY OF FOOD AND ANIMAL FEED Horizontal method for the enumeration of microorganisms. Part 1: Colony count at 30 degrees C by the pour plate technique
ISO/DIS 4833-2 July 2012	MICROBIOLOGY OF FOOD AND ANIMAL FEED Horizontal method for the enumeration of microorganisms. Part 2: Colony count at 30 degrees C by the surface plating technique

ISO published standards

FERMENTED MILKS	
ISO/TS 11869 (IDF 150) January 2012	FERMENTED MILKS Determination of titratable acidity – Potentiometric method
MILK AND MILK PRODUCTS	
ISO 15174 (IDF 176) May 2012	MILK AND MILK PRODUCTS Microbial coagulants – Determination of total milk-clotting activity

NEW EU REGULATIONS

Classification is established in alphabetical order of the first keyword

CONTAMINANTS
O.J.E.U. L 084, 23rd March 2012 – Commission Regulation (EU) No 252/2012 of 21 March 2012 laying down methods of sampling and analysis for the official control of levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in certain foodstuffs and repealing Regulation (EC) No 1883/2006 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:084:0001:0022:EN:PDF
FOOD ADDITIVE
O.J.E.U. L 078, 17th March 2012 – Commission Regulation (EU) No 232/2012 of 16 March 2012 amending Annex II to Regulation (EC) No 1333/2008 of the European Parliament and of the Council as regards the conditions of use and the use levels for Quinolone Yellow (E 104), Sunset Yellow FCF/Orange Yellow S (E 110) and Ponceau 4R, Cochineal Red A (E 124) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:078:0001:0012:EN:PDF
O.J.E.U. L 083, 22nd March 2012 – Commission Regulation (EU) No 231/2012 of 9 March 2012 laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:083:0001:0295:EN:PDF
O.J.E.U. L 119, 4th May 2012 – Commission Regulation (EU) No 380/2012 of 3 May 2012 amending Annex II to Regulation (EC) No 1333/2008 of the European Parliament and of the Council as regards the conditions of use and the use levels for aluminium-containing food additives http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:119:0014:0038:EN:PDF

HEALTH CLAIMS

O.J.E.U. L 119, 4th May 2012 – Commission Regulation (EU) No 378/2012 of 3 May 2012 refusing to authorise certain health claims made on foods and referring to the reduction of disease risk and to children's development and health

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:119:0009:0011:EN:PDF>

O.J.E.U. L 119, 4th May 2012 – Commission Regulation (EU) No 379/2012 of 3 May 2012 refusing to authorise certain health claims made on foods, other than those referring to the reduction of disease risk and to children's development and health

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:119:0012:0013:EN:PDF>

IMPORT

O.J.E.U. L 092, 30th March 2012 – Commission Implementing Regulation (EU) No 284/2012 of 29 March 2012 imposing special conditions governing the import of feed and food originating in or consigned from Japan following the accident at the Fukushima nuclear power station and repealing Implementing Regulation (EU) No 961/2011

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:092:0016:0023:EN:PDF>

MILK AND DAIRY PRODUCTS

O.J.E.U. L 094, 30th March 2012 – Regulation (EU) No 261/2012 of the European Parliament and of the Council of 14 March 2012 amending Council Regulation (EC) No 1234/2007 as regards contractual relations in the milk and milk products sector

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:094:0038:0048:EN:PDF>

PESTICIDES

O.J.E.U. L 089, 27th March 2012 – Commission Regulation (EU) No 270/2012 of 26 March 2012 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for amidosulfuron, azoxystrobin, bentazone, bixafen, cyproconazole, fluopyram, imazapic, malathion, propiconazole and spinosad in or on certain products

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:089:0005:0063:EN:PDF>

O.J.E.U. L 105, 17th April 2012 – Commission Regulation (EU) No 322/2012 of 16 April 2012 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for clopyralid, dimethomorph, fenpyrazamine, folpet and pendimethalin in or on certain products

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:105:0001:0040:EN:PDF>

P.G.I. / P.D.O.

O.J.E.U. C 029, 2nd February 2012 – Publication of an application pursuant to Article 6(2) of Council Regulation (EC) No 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs [Danbo (PGI) (cheese)]

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:029:0014:0018:EN:PDF>

O.J.E.U. L 043, 16th February 2012 – Commission Implementing Regulation (EU) No 129/2012 of 13 February 2012 approving minor amendments to the specification for a name entered in the register of protected designations of origin and protected geographical indications [Queso Manchego (PDO) (cheese)]

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:043:0001:0005:EN:PDF>

O.J.E.U. C 064, 3rd March 2012 – Publication of an amendment application pursuant to Article 6(2) of Council Regulation (EC) No 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs [Provolone Valpadana (PDO) (cheese)]

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:069:0005:0006:EN:PDF>

O.J.E.U. L 069, 8th March 2012 – Commission Implementing Regulation (EU) No 187/2012 of 7 March 2012 entering a name in the register of protected designations of origin and protected geographical indications [Tolminc (PDO) (cheese)]

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:064:0019:0024:EN:PDF>

O.J.E.U. L 093, 30th March 2012 – Council Decision of 14 February 2012 on the conclusion of the Agreement between the European Union and Georgia on protection of geographical indications of agricultural products and foodstuffs + Agreement between the European Union and Georgia on protection of geographical indications of agricultural products and foodstuffs

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:093:0001:0002:EN:PDF>

+ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:093:0003:0140:EN:PDF>

O.J.E.U. L 101, 4th April 2012 – Publication of an application pursuant to Article 6(2) of Council Regulation (EC) No 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs [Queso Camerano (PDO) (cheese)]

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:101:0006:0012:EN:PDF>

PHARMACOLOGICALLY ACTIVE SUBSTANCES

O.J.E.U. L 030, 2nd February 2012 – Commission Implementing Regulation (EU) No 86/2012 of 1 February 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance Lasalocid

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:030:0006:0007:EN:PDF>

O.J.E.U. L 036, 9th February 2012 – Commission Implementing Regulation (EU) No 107/2012 of 8 February 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “octenidine dihydrochloride”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:036:0025:0026:EN:PDF>

O.J.E.U. L 040, 14th February 2012 – Commission Implementing Regulation (EU) No 107/2012 of 8 February 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “methylprednisolone”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:040:0002:0003:EN:PDF>

O.J.E.U. L 040, 14th February 2012 – Commission Implementing Regulation (EU) No 107/2012 of 8 February 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “monepantel”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:040:0004:0005:EN:PDF>

O.J.E.U. L 071, 9th March 2012 – Commission Implementing Regulation (EU) No 201/2012 of 8 March 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “nitroxinil”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:071:0037:0039:EN:PDF>

O.J.E.U. L 075, 15th March 2012 – Commission Implementing Regulation (EU) No 221/2012 of 14 March 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “closantel”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:075:0007:0009:EN:PDF>

O.J.E.U. L 075, 15th March 2012 – Commission Implementing Regulation (EU) No 222/2012 of 14 March 2012 amending the Annex to Regulation (EU) No 37/2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, as regards the substance “triclabendazole”

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:075:0010:0011:EN:PDF>

VITAMINS / MINERALS

O.J.E.U. L 102, 12th April 2012 – Commission Implementing Regulation (EU) No 307/2012 of 11 April 2012 establishing implementing rules for the application of Article 8 of Regulation (EC) No 1925/2006 of the European Parliament and of the Council on the addition of vitamins and minerals and of certain other substances to foods

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:102:0002:0004:EN:PDF>

AFNOR VALIDATIONS

During its February and March meetings, the Technical Committee of NF VALIDATION approved by vote:

Commercial name	Date	Certificate	Description
NEW VALIDATION			
DELVOTEST® T	Validation date: 3 Feb 2012 End of validity: 3 Feb 2016	DSM-28/02-02/12	Detection of antibiotics Cow, goat and sheep milk (with or without azidiol)
RENEWALS OF VALIDATIONS			
BAX® E. COLI O157:H7 MP	Validation date: 28 Mar 2008 Renewal: 3 Feb 2012 End of validity: 28 Mar 2016	QUA-18/04-03/08	Detection of <i>E. coli</i> O157:H7 Raw beef meat, raw milk, fruits and vegetables and miscellaneous (raw pork, raw sheep and raw chicken meat)
GÉLOSE CHROMID™ OTTAVIANI AGOSTI	Validation date: 28 Mar 2008 Renewal: 2 Feb 2012 End of validity: 28 Mar 2016	BIO-12/24-03/08	Enumeration of <i>Listeria monocytogenes</i> All human food products
VIDAS LISTERIA MONOCYTOGENES 2 (37°C enrichment step)	Validation date: 12 Mar 2004 Extension: 2 Dec 2004, 14 Dec 2006 and 30 June 2011 Renewal: 17 Jan 2008 and 02 Feb 2012 End of validity: 12 Mar 2016	BIO-12/11-03/04	Detection of <i>Listeria monocytogenes</i> All human food products and environmental samples
SIMPLE METHOD FOR SALMONELLA (SMS)	Validation date: 7 May 2004 Extension: 2 July 2007 Renewal: 27 Mar 2008 and 22 Mar 2012 End of validity: 7 May 2016	AES-10/04-05/04	Detection of <i>Salmonella</i> All human and animal food products, and production environment samples (except primary production stage environment)
EXTENSIONS OF VALIDATIONS			
VIDAS UP SALMONELLA	Validation date: 6 Oct 2011 Extension: 2 Feb 2012 End of validity: 6 Oct 2015	BIO-12/32-10/11	Detection of <i>Salmonella</i> spp. All human food products, animal feeding stuffs and production environment samples (except primary production stage)
AL DETECTION	Validation date: 26 Jan 2009 Extension: 2 Feb 2012 End of validity: 26 Jan 2013	BRD-07/16-01/09	Detection of <i>Listeria monocytogenes</i> and <i>Listeria</i> spp. All human food products and environmental samples
BAX® SALMONELLA SPP. (automatised)	Validation date: 28 Nov 2002 Extension: 30 June 2008, 27 Nov 2008, 18 May 2009, 24 Mar 2011 and 22 Mar 2012 Renewal: 23 Oct 2006 and 24 Sep 2010 End of validity: 28 Nov 2014	QUA-18/03-11/02	Detection of <i>Salmonella</i> All human and animal food products and production environment samples (except primary production stage environment)

AFNOR VALIDATIONS

IQ-CHECK SALMONELLA II	Validation date: 1 July 2004 Extension: 24 May 2007, 28 Sep 2007, 25 Sep 2008, 4 Feb 2010, 3 Feb 2011, 1 July 2011 and 22 Mar 2012 Renewal: 27 Nov 2008 End of validity: 1 July 2012	BRD-07/06-07/04	Detection of <i>Salmonella</i> All human and animal food products and environmental samples (including animal faeces and environmental samples from the primary production stage)
IQ-CHECK LISTERIA MONOCYTOGENES II	Validation date: 7 Apr 2005 Extension: 15 Dec 2006, 28 Sep 2007, 4 Feb 2010 and 22 Mar 2012 Renewal: 26 Mar 2009 End of validity: 7 Apr 2013	BRD-07/10-04/05	Detection of <i>Listeria monocytogenes</i> All human food products and environmental samples
IQ-CHECK LISTERIA SPP.	Validation date: 24 May 2007 Extension: 28 Sep 2007, 4 Feb 2010 and 22 Mar 2010 Renewal: 13 May 2011 End of validity: 24 May 2015	BRD-07/13-05/07	Detection of <i>Listeria</i> spp. All human food products and environmental samples
MODIFICATIONS OF VALIDATIONS			
ADIAFOOD SALMONELLA	Validation date: 2 July 2010 Extension: 2 Dec 2010 and 12 May 2011 Modification: 2 Feb 2012 End of validity : 02 July 2014	AES-10/09-07/10	Detection of <i>Salmonella</i> All human and animal food products, and production environment samples (except primary production stage environment)
ADIAFOOD LISTERIA MONOCYTOGENES	Validation date : 3 Dec 2009 Extension: 2 Dec 2010 Modification: 2 Feb 2012 End of validity: 3 Dec 2013	AES-10/08-12/09	Detection of <i>Listeria monocytogenes</i> All human food products and environmental samples

The validation certificates and the recapitulative list are available at the following website address:
<http://www.afnor-validation.com/afnor-validation-validated-methods/validated-methods.html>

BOOKSHOP: LATEST PUBLICATIONS

The classification in alphabetic order of the first keyword allows you to consult the references according to your interests. The web site allows you to know more, or to order the book.

DAIRY POWDERS

SCHUCK P., JEANTET R., DOLIVET A. – **Analytical methods for food and dairy powders** – Wiley-Blackwell Edition – March 2012 – ISBN: 978-0-470-655598-6 – 248 pages

<http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470655984.html>



This book provides an overview of the existing, adapted or new techniques used to analyse safety and quality in modern food and dairy powders. Each chapter, richly illustrated with original data and worked examples, focuses on a particular analytical technique, outlining the purpose, definition and principle of that method. All the information about the instruments needed, the safety measures required, and the correct procedures to follow to ensure successful analysis are described.

FORTHCOMING EVENTS

DAIRY PRODUCTS

19-21 June 2012
Saint-Malo, France

IDF/INRA international symposium
on spray dried dairy products

<https://www.colloque.inra.fr/sddp2012>

MILK AND DAIRY PRODUCTS

4-8 June 2012
Tel Aviv, Israël

IDF/ISO analytical week

<http://www.idf-iso-analytical-week.org>

IN THE PRESS – ON THE WEB

Classification in alphabetical order of keywords

AFLATOXIN

Bioo Scientific's speeds up aflatoxin M₁ analysis

<http://www.laboratorytalk.com/news/bfg/bfg144.html>

► Bioo Scientific has added two new MaxSignal Aflatoxin M₁ ELISA kits to its line. Both of these kits were designed to simplify the analysis of dairy products for Aflatoxin M₁ contamination. One of both increase speed and the other increase sensitivity of the analysis.

ANTIOXIDANT

Rapid antioxidant measurements in foods

<http://www.laboratorytalk.com/news/anu/anu119.html>

► Analytic Jena UK has introduced the Photochem analyser, a system that can rapidly and accurately measure water-soluble and lipid-soluble antioxidants.

HISTAMINE

Detecting histamine in seafood, wine and milk

<http://www.laboratorytalk.com/news/bfg/bfg146.html>

► Bioo Scientific's new HistaStrip Test Kit uses dipstick technology for the rapid visual determination of histamine in seafood, fish meal, wine and milk.

PROTEIN

Scientific opinion on the suitability of goat milk protein as a source of protein in infant formulae and in follow-on formulae

<http://www.efsa.europa.eu/efsajournal/pub/2603.htm>

► Following an application by Dairy Goat Co-operative (NZ) Ltd, the European Commission asked the EFSA panel on dietetic products, nutrition and allergies to provide a scientific opinion on the suitability of goat milk as a source of protein in infant and follow-on formulae.

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