CECALAIT-S NEWSLETTER

ACTALIA
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ARTICLE

EVALUATION OF THE ORACLE INSTRUMENT

ACTALIA Cecalait was asked to carry out an evaluation of the performance of the fat analyzer ORACLE on dairy products. This instrument, produced by CEM, is based on NMR technology with no method development. It uses a new NMR technology that completely isolates detection of protons on fat molecules from all other NMR signals.

The instrument used in this study was:

Type of instrument: ORACLE MAGNET
Model no: 904800
Serial no: OM3004
Normalization standard (PN: 523020 - SN: NS60007)
Oil standard (P/N 160840)
High precision heater block (44.20 °C ± 0.15 °C)

The instrument was installed in a temperature controlled room (20-23°C – air-conditioning), without direct sunlight. The installation procedure was performed by CEM. Pads, samples and film were necessary for this evaluation.

THE TESTS

Short term reproducibility, repeatability and accuracy were evaluated. Short term reproducibility was performed on 3 cheese samples with different fat levels. Repeatability and accuracy of the instrument were evaluated on 30 samples of dairy products (4 cream samples, 2 sour cream samples, 4 yogurt samples, 6 cheese samples, 4 processed cheese samples, 4 dried milk samples, 2 ice cream samples, 2 milk dessert samples and 2 chocolate mousse samples).
Some samples were Certified Reference Materials (CRM's) sourced from ACTALIA Cecalait, the other samples were bought in a supermarket.

The following standards for reference methods were used for the evaluation of the accuracy of the instrument:

-Fat content in cream	Rose-Gottlieb method according ISO 2450 | IDF 16
-Fat content in sour cream	Weibull-Berntrop method according ISO 8262-3 | IDF 124-3
-Fat content in yogurt	Weibull-Berntrop method according ISO 8262-3 | IDF 124-3
-Fat content in cheese and processed cheese	Schmid-Bondzynski-Ratzlaff method according ISO 1735 | IDF 5
-Fat content in dried milk	Rose-Gottlieb method according ISO 1736 | IDF 9
-Fat content in ice cream	Rose-Gottlieb method according ISO 7328 | IDF 116
-Fat content in milk dessert	Weibull-Berntrop method according ISO 8262-3 | IDF 124-3

The determination of the fat content of cheeses and processed cheeses obtained from the ISO 1735 method are globally equivalent to those which could be obtained from the AOAC 933.05 method. Indeed, we can observe only few technical differences between the two methods: the sample size (1g vs 3g) and the drying temperature (99-101°C vs 102°C±2°C). These differences are not likely to impact significantly the result.
A Rose-Gottlieb principle has been tested on sour cream, yogurt and dessert samples, but unfortunately, a gelification (inside the tube) occurred during the analytical process (likely linked to matrix effect: sugars content and pH of the product) and prevented to obtain results.
Note: The scope of ISO Rose-Gottlieb standardized method doesn't include these products

For the fat determination with the instrument, samples were pre-dried in sample holders overnight (4 hours for yogurt and milk dessert) in oven with film and pads. Then, they were conditioned in the high precision heater block at the magnet temperature for 1 hour. Samples were transferred in to the ORACLE and analyzed within 35 seconds.
Before every set, a reference sample (milk) was analyzed to ensure results.
Long term stabilities were performed before analysis.

EVALUATION OF SHORT TERM REPRODUCIBILITY

The short term reproducibility was evaluated by analyzing 3 cheeses, with different fat contents, in duplicate, every 15 minutes to obtain at least 15 sequences. To evaluate the stability of the instrument, the repeatability and reproducibility were calculated by level.

The following tables present the obtained results:

	Level 1	Level 2	Level 3
Fat (g/100g)	40	21	5

Table 1: Fat content of samples used in short term reproducibility evaluation

(g/100g)	Level 1	Level 2	Level 3
M	42.419	21.371	6.322
Sr	0.090	0.052	0.014
Sr (%)	0.21 %	0.24 %	0.21 %
SR	0.115	0.064	0.016
SR (%)	0.27 %	0.30 %	0.25 %
r	0.253	0.146	0.038
R	0.323	0.180	0.044

Table 2: ORACLE stability[1]

The results indicate that the relative reproducibility (SR %) is in the same scale for the 3 levels. Furthermore, the reproducibility of the instrument is lower than the reproducibility of the reference method (R= 0.40 g/100g).

EVALUATION OF THE ACCURACY

The accuracy of the instrument were evaluated on cream, sour cream, yogurt, cheese, processed cheese, dried milk, ice cream and milk dessert

The following table and figure present the results obtained:

g/100g	Cream	Sour cream	Yogurt	Cheese	Processed cheese	Dried milk	Ice cream	Milk dessert	All Samples
n	4	2	4	6	4	4	2	4	**30**
min	21.87	13.90	1.04	2.28	8.55	0.42	9.18	3.02	**0.42**
max	44.33	29.47	8.91	34.69	29.41	26.08	17.20	6.79	**44.33**
Y	32.90	21.54	3.58	18.55	22.14	16.70	13.18	5.48	**16.80**
S_y	9.66	10.87	3.61	13.43	9.54	12.14	5.81	1.78	**12.53**
d	0.02	0.15	0.06	0.04	0.10	-0.14	0.01	-0.05	**0.02**
S_d	0.10	0.14	0.07	0.13	0.08	0.06	0.14	0.09	**0.12**
$S_{y,x}$									**0.122**
$S_{y,x\ \%}$									**0.72**
Slope									**0.999**
Bias									**0.009**

Table 3: ORACLE accuracy criteria in all samples[2]

[1] M: mean; Sr and SR (Sr% and SR%): absolute (and relative) standard deviations of repeatability and reproducibility; r and R: maximum deviation of repeatability and reproducibility in 95 % of cases.

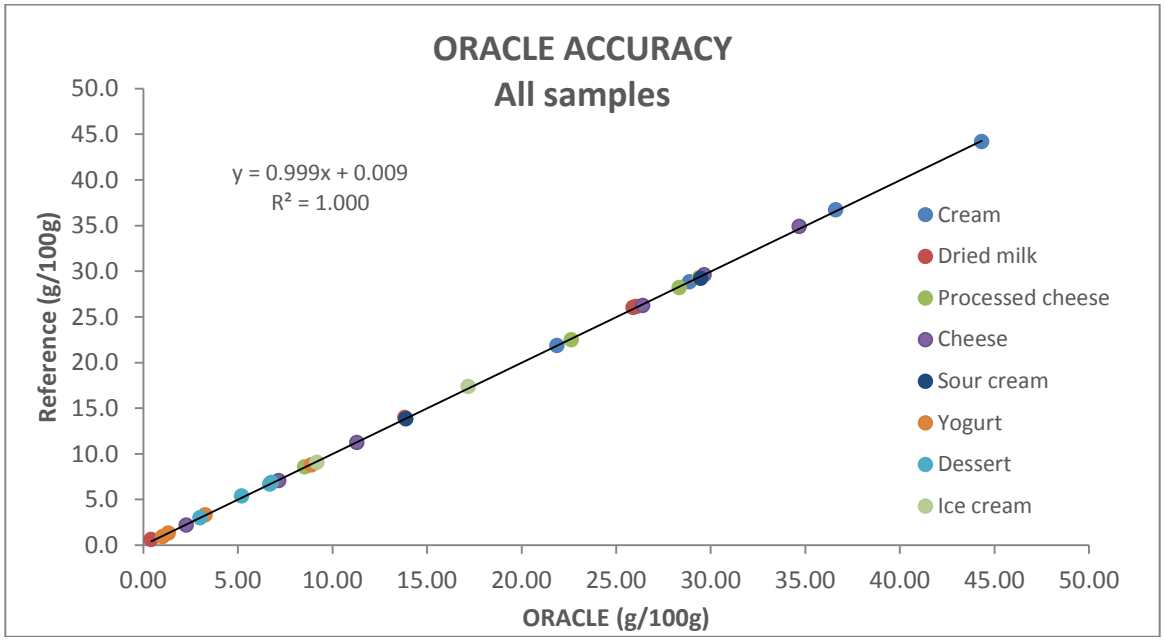


Figure 1 : Relation between ORACLE and reference results in all samples

It can be noted that the mean and the standard deviation of deviations are respectively equal to 0.02 and 0.12 g/100g. The regression slope (0.999) and the intercept (0.009) are not significantly different, respectively from 1.00 and zero (P=5%).

GENERAL CONCLUSION

The ORACLE system is easy to use. Only simple tests have to be performed to check the device operability (as long-term stability for example).

In the absence of standardized limits of repeatability and accuracy for such NMR instrument, we can conclude as follows:

- The ORACLE instrument presents a good performance of repeatability for all the products and below reference method limits.
- For accuracy, we can observe a very good performance (slope and bias closed respectively to 1.00 and 0.00, and mean difference of +0.02 g/100 g). The samples have been analysed on the ORACLE system using the same parameters, bringing to the conclusion, the instrument is very robust.

This study has been focused on fat determination by ORACLE system, but also available from CEM the linkage of the dry matter analyser (SMART 6) and the fat analyser (ORACLE) in order to skip the pre-drying process overnight (or 4 h for yogurt and dessert) and the conditioning step (1 h in the heating block). The total test time for measurement of both dry matter and fat content is announced to be <5 minutes.

[2] n, min, max: number of results, minimum and maximum values; Y: mean results using the reference method; Sy: standard deviation of the results from the reference method; d, Sd: mean and standard deviation of deviations; Sy,x, Sy,x%: absolute and relative residual standard deviation.

EVALUATION OF THE PROMICOL SYSTEM FOR STERILITY TESTING OF UHT DAIRY PRODUCTS COMPARING NEW AGE REAGENTS WITH CURRENT REAGENTS

ACTALIA Cecalait has evaluated the Promicol® System for the control of sterility of UHT products by comparison of new age reagents with current ones.

This method is used to detect microbial ATP (adenosine triphosphate) in a wide range of UHT and extended shelf-life (ESL) dairy products including flavoured milk, lactose reduced milks, desserts, baby milks and creams. After incubation for 2 or 3 days at 30°C, just after their production, milk products are analysed by Promicol method for evaluation of the growth of bacteria, by extraction and detection of their ATP.

The Promicol® System includes a microbial ATP detection kit specific for UHT and ESL dairy products, the PromiLite M4 luminometer and the Proscreen Software.

MATERIAL AND METHODS

In this study, Promicol® method using current reagents (kit 1) and new age reagents (kit 2) has been compared with official method for detecting non-sterile dairy products.

5 types of products were tested:

– UHT whole milk in brick of 1 l;
– UHT semi-skimmed milk in brick of 1 l;
– UHT chocolate milk in brick or glass bottles of 20 cl;
– UHT cream in brick or plastic bottles of 20 cl;
– Vanilla dessert in plastic cups of 115 g: for these products stored between 0 to 6°C, the criterion of the official method is not applicable.

Official method

The official method is described in the EU directive 94/71(1994) modifying the directive 92/46 (1992).
After incubation of products for 15 days at 30 ± 2°C, microorganisms at 30°C are enumerated by inoculation of 0.1 ml in Plate Count Agar with skimmed milk (mPCA) according to ISO 4833-1.
The criterion is ≤ 10 CFU for 0.1ml of milk corresponding to < 100 CFU/ml.
Remark: this criterion is not applicable for products stored usually at refrigerated temperature (e.g. dairy dessert)

In this study the enumeration was performed in 2 plates inoculated by 0.1 ml.
For dessert and cream, we obtained very opaque plates, difficult to read, so we inoculated the sample in 1 plate with 0.1 ml of product and in 1 plate with 0.1 ml of a decimal dilution.

Promicol® method

Promicol® test is performed after incubation of products for 2 days at 30 ± 2°C according to the procedure described in the supplier kit insert.

A microplate well is inoculated with 50 µl of product with an ATP free tip. For thick products, as creams and desserts, a widebore tip is used. After inoculation, the microplate containing 96 wells is put into the Promilite Luminometer, which, linked with the Proscreen Software V4.000, analyses automatically the samples. Some controls are performed for each microplate in the first wells.

Each sample was analysed with 4 repetitions for both reagents to determine the repeatability coefficient of variation expressed in percentage.

The results are expressed in Relative Light Units (RLU), with 3 types of interpretation according to table 1.

Table 1: Interpretation of results

REPLY	STERILITY OF PRODUCT	RLU VALUE
Pass	Sterile product	RLU < 2 x blank RLU
Retest	Product to be retested after additional incubation	2 x blank RLU< RLU < 3 x blank RLU
Fail	Non-sterile product	RLU > 3 x blank RLU

PROTOCOL

All samples were homogenized by hand (about 25 times), before being pipetted under aseptic conditions directly in the bottle or brick, or by a syringe in case of additional incubation. In this case the hole made by the syringe was closed by an adhesive sterile film.

Determination of blank values

20 samples of each type of products were analysed to determine the blank value used for the interpretation of Promicol® results (see table 1):

- By Promicol® method after **2 days** of pre-incubation at 30 ± 2°C, with 4 repetitions by new age and current reagents;
- By the official method after **2 and 15 days** of pre-incubation at 30 ± 2°C.

The blank values were then obtained by calculating the average of the 80 results.
For some types of products various brands were analysed, in this case the average value was calculated only if homogeneous values were obtained; otherwise a blank value was calculated for each brand.

Contaminated samples

Contaminations

5 strains were used for contamination, one strain for each type of product, and are described in table 2.

Table 2: Strains used for contamination

DAIRY UHT/ ESL PRODUCT	UHT whole Milk	UHT skimmed milk	UHT chocolate milk	UHT cream	ESL Vanilla dessert
Strain	*Bacillus cereus*	*Salmonella* Typhimurium	*Listeria mono-cytogenes* 1/2a	*Escherichia coli*	*Candida parapsilosis*
Internal number	14001	98002	00002	99008	14065
Origin	Food product	Dairy product	Raw milk	*Raw milk*	UHT milk

Each strain was cultivated in BHI broth 18 h at the optimal temperature. A volume of the diluted broth was used to obtain a contamination of 5-10-15 CFU per brick, bottle or cup**.** The contamination was repeated 2 times, giving 6 samples contaminated by 1 strain per product.

The samples were contaminated under aseptic conditions, with a volume of the diluted broth inoculated with a syringe through the aluminium cover, or directly through the brick. The hole made by the syringe was closed by an adhesive sterile film. The level of the contamination was verified by inoculating 1 ml in 5 PCA plates, at the same dilution as the contamination.

Analyses

6 samples of each type of products were analysed

- By Promicol® method after **2 and 3 days** of pre-incubation at 30 ± 2°C, with 4 repetitions by new age and current reagents;
- By the official method after **2, 3 and 15 days** of pre-incubation at 30 ± 2°C.

RESULTS

Determination of blank values

20 samples of each type of products were analysed 4 times by both kits to determine the blank value (average of 80 analyses). The coefficients of variation (CV) for 4 repetitions were calculated in percentage, and then the average of these values.
Results are summarised in table 3.

Table 3: Data on negative samples

DAIRY UHT/ ESL PRODUCT	20 UHT whole milk (3 brands)	20 UHT skimmed milk (4 brands)	20 UHT chocolate milk (3 brands)	UHT cream 2 brands		20 vanilla desserts (1 brand)
				20 (brand 1)	6 (brand 2)	
KIT1 Day 2 Mean in RLU	10	9	7	17	91	18
KIT2 Day 2 Mean in RLU	6	7	6	24	76	17
Total flora Day 2 Day 15	neg 2 pos(1)	neg neg	neg neg	neg neg	neg neg	neg 10 pos(2)

(1) *This contamination may be due to a cross contamination in the water bath and not to the sample itself.*

(2) *11 to 30 colonies were enumerated per plate, but these samples can be considered as blanks: official criterion (≤ 10 in 0.1 ml) is not applicable for these products stored in refrigerator and the number of colonies was very low.*

The blanks values were low (6 to 24 RLU) except for the second cream (76 and 91 RLU).
CV values were high (between 25% and 58%), this can be explained by the low values in RLU.

Contaminated samples

Artificially contaminated samples

Each couple product/strain was contaminated 2 times at 5, 10 and 15 CFU per packing unit, so 6 samples per product were analysed by both kits 4 times (24 results).

The real values of contamination were calculated from the enumeration in the 5 mPCA plates
Results are presented in the table 4.

Table 4: Contaminated samples data

DAIRY UHT/ ESL PRODUCT	6 UHT whole milk	6 UHT skimmed milk	6 UHT chocolate milk	6 UHT cream (Brand 2)	6 ESL vanilla desserts
Real CFU/ Bottle, brick or cup	7-14-21 *B. cereus*	5-10-15 *Salmonella*	3-6-10 *L. mono*	8-15-23 *E. coli*	7-14-20 *Candida parapsilosis*
KIT1 (n = 24) **RLU Day 2** **RLU Day 3**	 pos pos	 pos pos	 pos pos	 pos 21 pos/2 retest/1 neg	 20 pos/2 retest/2 neg pos
KIT2 (n = 24) **RLU Day 2** **RLU Day 3**	 pos pos	 pos pos	 pos pos	 23 pos/1 neg 20 pos/3 retest/1 neg	 18 pos/6 retest pos
Total flora (n = 6) **Day 2** **Day 15**	 pos pos	 pos pos	 pos pos	 pos pos	 pos pos

Mean values were high (between 200 and 9800 RLU), and gave always positive results except 3 negative for creams and 2 for desserts. We can suppose that when a retest is needed after a supplementary incubation (e.g. 1 day) the result will become positive.
We obtained low CV values (about 5%) for whole milk and chocolate milk, but higher CV values (between 26% and 56%) for:

- skimmed milks: may be due by spoilage of milk, that caused the heterogeneity of contamination;
- creams and desserts: due to their viscosity

Naturally contaminated samples

During examination of the blank samples for cream (brand 1) after 2 days at 30°C, 6 of them showed very high results with the Promicol® method, while no colonies were enumerated in mPCA after 2 days and 15 days at 30°C (see table 5). A contamination was observed only in surface of blood agar plates incubated at 30°C or 37°C. These results show that Promicol® method was more sensitive to detect this type of contamination than the official method.
The strain isolated from these samples was identified by Maldi-Tof method as *Bacillus sporothermodurans*, a spore forming bacteria which is known to be mesophilic in vegetative form (it can grow at 30°C) and very thermoresistant in spore form.

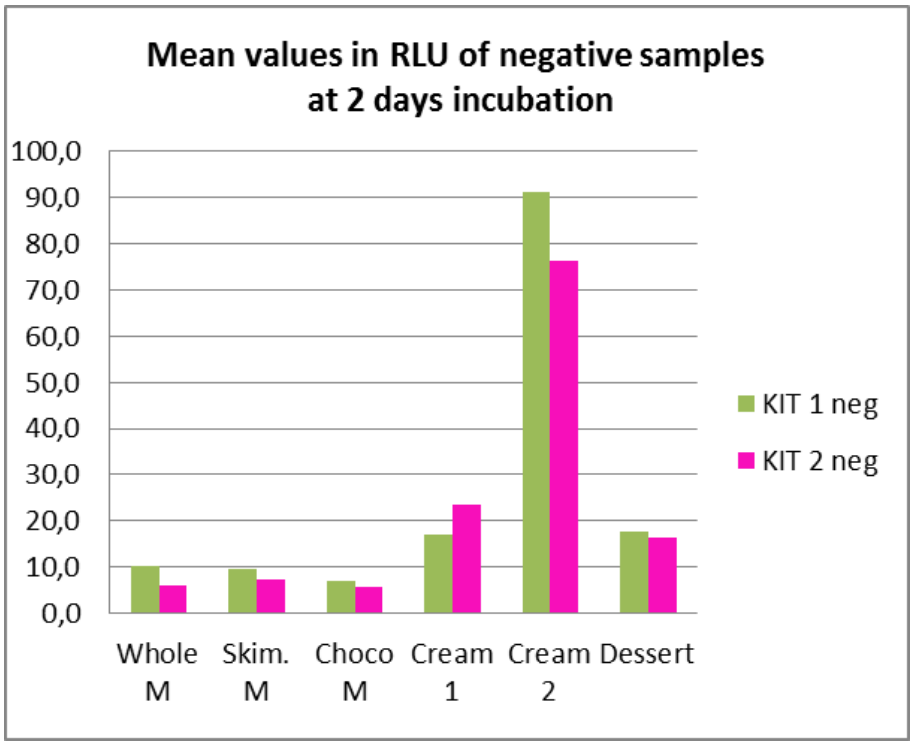
Table 5: Naturally contaminated samples data in cream (brand 1)

UHT cream (Brand 1)	20 blanks (blank value)	6 positives samples
KIT1 Day 2 **RLU**	mean = 17	270 - 4400
KIT2 Day 2 **RLU**	mean = 24	180 - 3000
Total flora **Day 2** **Day 15**	 Neg Neg	 Neg Neg*

***** *no growth in PCA at 30°C, but culture at surface of blood agar plates (0.1 ml at dilution -1) at 30°C and 37°C*

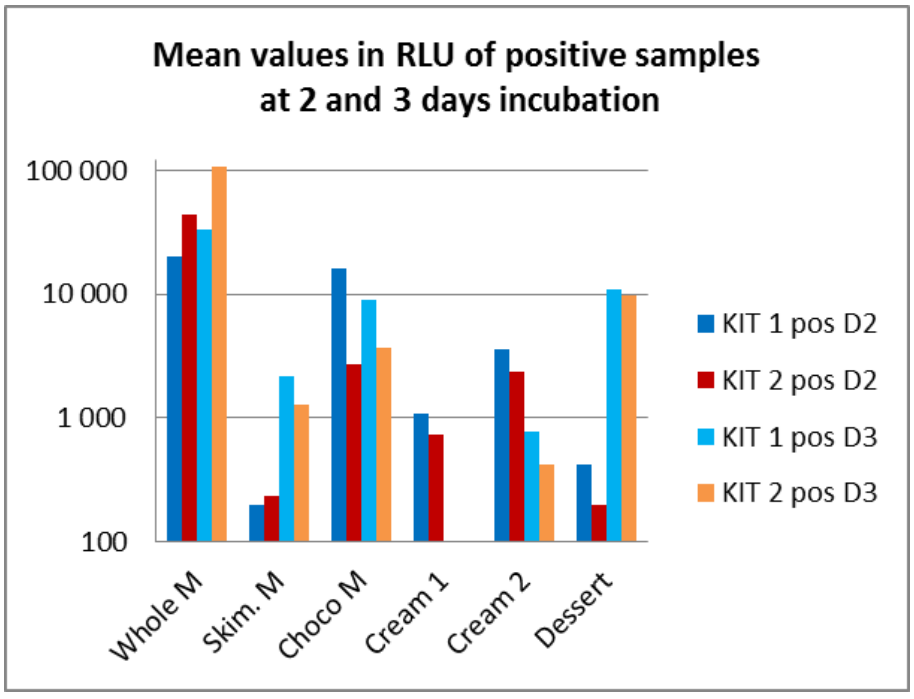
Comparison between kits

Figure 1: Comparison between kits for blank samples in mean RLU



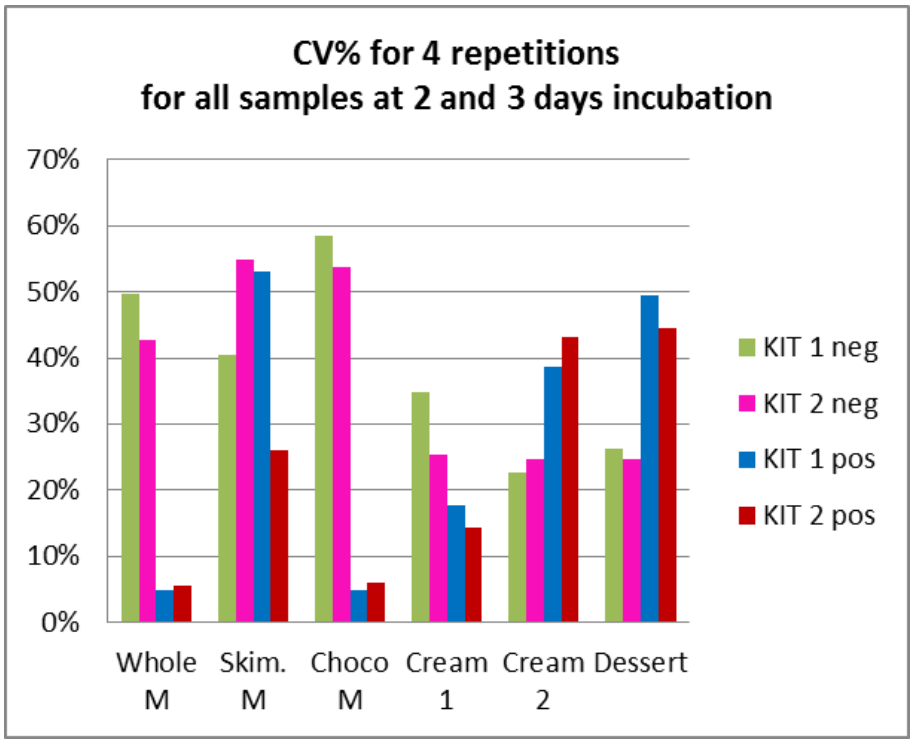
For the blank samples the RLU values are equivalent between the 2 kits and a little lower for the new one except for the cream 1.

Figure 2: Comparison between kits for the positive samples in mean RLU (in semi logarithmic scale)



For the positive samples the RLU values are equivalent between the 2 kits and often lower for the new one.

Figure 3: Comparison between kits for all samples in CV% for 4 repetitions



For all samples the CV% for 4 repetitions are equivalent between the 2 kits and in general a little lower for the new kit, and for the positive skimmed milk samples it is significantly lower.
For positive samples the high viscosity of dessert and cream can explain their high values of CV%. For the skimmed milk, it was rotten by the high level of contamination, involving the heterogeneity of the matrix.

CONCLUSION

Comparison between the current reagents (kit 1) and the new age reagents (kit 2):

- RLU values at 2 days of incubation for negative or positive samples are equivalent for the 2 kits, or sometimes lower for the new one;
- The coefficient of variation on 4 repetitions calculated in %, for blank or positive samples results are equivalent or lower for the new kit;
- For the 30 artificially contaminated samples after 2 and 3 days of pre-incubation at 30°C, the number of false negative results was equivalent on 240 analyses (3 negative for kit 1 c/ 2 negative for kit 2);
- The 6 naturally contaminated samples were well detected by both kits.

Performance of the Promicol® method for sterility testing in UHT or ESL products:

- Promicol® method is very easy to implement, as addition of reagents, optical reading and interpretation of results are automatic.
- Promicol® is a rapid method that needs a 2 days pre-incubation at 30°C and 20 min of analysis, versus 15 days of pre-incubation for the reference method followed by 3 days of incubation of PCA plates.
- The performance of the Promicol® method is equivalent or more sensitive than the official method in PCA, as showed in this study for the naturally contaminated samples of cream. The official method needs sometimes (e.g. for cream and dessert) a decimal dilution and the results in PCA are sometimes difficult to read in particular when cultures are overgrowing.
- Promicol® is relevant for all types of UHT and ESL products, while resazurin test, which is commonly used in dairy industry, cannot be used for coloured flavoured milk and certain types of supplemented milks.
- Even thick/viscous samples can be analysed with the Promicol® method, whereas usage of wide bore tips and thoroughly shaking before pipetting are recommended to ensure homogenous sampling

STANDARDS, DRAFT STANDARDS

Classification in alphabetical order by theme

ISO standards under development

MICROBIOLOGY OF THE FOOD CHAIN	
ISO/DIS 16140-3 March 2018	MICROBIOLOGY OF THE FOOD CHAIN Method validation - Part 3: Protocol for the verification of reference and validated alternative methods implemented in a single laboratory
ISO/DIS 16140-4 March 2018	MICROBIOLOGY OF THE FOOD CHAIN Method validation - Part 4: Protocol for single-laboratory (in-house) method validation
ISO/DIS 16140-5 March 2018	MICROBIOLOGY OF THE FOOD CHAIN Method validation - Part 5: Protocol for factorial interlaboratory validation of non-proprietary methods
ISO/DIS 16140-6 March 2018	MICROBIOLOGY OF THE FOOD CHAIN Method validation - Part 6: Protocol for the validation of alternative (proprietary) methods for microbiological confirmation and typing procedures
ISO/DIS 11133/Amd 2 March 2018	MICROBIOLOGY OF FOOD, ANIMAL FEED AND WATER Preparation, production, storage and performance testing of culture media - Amendment 2
ISO/DIS 17410 January 2017	MICROBIOLOGY OF THE FOOD CHAIN Horizontal method for the enumeration of psychrotrophic microorganisms
ISO/DIS 22117 May 2017	MICROBIOLOGY OF THE FOOD CHAIN Specific requirements and guidance for proficiency testing by interlaboratory comparison
MILK, MILK PRODUCTS, INFANT FORMULA AND ADULT NUTRITIONALS	
ISO/DIS 21422 December 2017	MILK, MILK PRODUCTS, INFANT FORMULA AND ADULT NUTRITIONALS Determination of chloride - Potentiometric titration method
ISO/DIS 15151 January 2018	MILK, MILK PRODUCTS, INFANT FORMULA AND ADULT NUTRITIONALS Determination of minerals and trace elements - Inductively coupled plasma atomic emission spectrometry (ICP-AES) method
ISO/DIS 21424 January 2018	MILK, MILK PRODUCTS, INFANT FORMULA AND ADULT NUTRITIONALS Determination of minerals and trace elements - Inductively coupled plasma mass spectrometry (ICP-MS) method
ISO/DIS 21446 May 2018	INFANT FORMULA AND ADULT NUTRITIONALS Determination of trans and total (cis + trans) vitamin K1 content - Normal phase HPLC
MILK AND MILK PRODUCTS	
ISO/DIS 17678 February 2018	MILK AND MILK PRODUCTS Determination of milk fat purity by gas chromatographic analysis of triglycerides (Reference method)
SENSORY ANALYSIS	
ISO/DIS 20613 May 2018	SENSORY ANALYSIS General guidance for the application of sensory analysis in quality control

ISO published standards

CHEESE, CHEESE RIND AND PROCESSED CHEESE	
ISO 9233-1 (IDF 140-1) March 2018	CHEESE, CHEESE RIND AND PROCESSED CHEESE Determination of natamycin content - Part 1: Molecular absorption spectrometric method for cheese rind *Replace ISO 9233-1:2007 + ISO 9233-1/Amd 1:2012*

STANDARDS - REGULATIONS

ISO 9233-2 (IDF 140-2) March 2018	CHEESE, CHEESE RIND AND PROCESSED CHEESE Determination of natamycin content - Part 2: High-performance liquid chromatographic method for cheese, cheese rind and processed cheese *Replace ISO 9233-2:2007 + ISO 9233-2/Amd 1:2012*
CREAM	
ISO 19660 (IDF 237) February 2018	CREAM Determination of fat content - Acido-butyrometric method
MILK	
ISO 19662 (IDF 238) February 2018	MILK Determination of fat content - Acido-butyrometric method (Gerber method)
MICROBIOLOGY OF FOOD	
ISO 11133/Amd 1 February 2018	MICROBIOLOGY OF FOOD, ANIMAL FEED AND WATER Preparation, production, storage and performance testing of culture media - Amendment 1

NEW EU REGULATIONS

Classification is established in alphabetical order of the first keyword

FOOD ADDITIVES

O.J.E.U. L 017, 23rd January 2018 – Commission Regulation (EU) 2018/98 of 22 January 2018 amending Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council and the Annex to Commission Regulation (EU) No 231/2012 as regards calcium sorbate (E 203)
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.017.01.0014.01.ENG

CONTAMINANTS

O.J.E.U. L 036, 9th February 2018 – Commission Regulation (EU) 2018/192 of 8 February 2018 amending Annexes VII to Regulation (EC) No 822/2004 of the European Parliament and of the Council as regards the EU reference laboratories in the field of contaminants in feed and food
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.036.01.0015.01.ENG

O.J.E.U. L 055, 27th February 2018 – Commission Regulation (EU) 2018/290 of 26 February 2018 amending Regulation (EC) No 1881/2006 as regards maximum levels of glycidyl fatty acid esters in vegetable oils and fats, infant formula, follow-on formula and foods for special medical purposes intended for infants and young children
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.055.01.0027.01.ENG

HEALTH CLAIMS

O.J.E.U. L 038, 10th February 2018 – Commission Regulation (EU) 2018/199 of 9 February 2018 refusing to authorise a health claim 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/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.038.01.0009.01.ENG

NOVEL FOOD

O.J.E.U. L 078, 21st March 2018 – Commission Implementing Regulation (EU) 2018/461 of 20 March 2018 authorising an extension of use of taxifolin-rich extract as a novel food under Regulation (EU) 2015/2283 of the European Parliament and of the Council, and amending Commission Implementing Regulation (EU) 2017/2470
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.078.01.0007.01.ENG

O.J.E.U. L 078, 21st March 2018 – Commission Implementing Regulation (EU) 2018/462 of 20 March 2018 authorising an extension of use of L-ergothioneine as a novel food under Regulation (EU) 2015/2283 of the European Parliament and of the Council, and amending Commission Implementing Regulation (EU) 2017/2470
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.078.01.0011.01.ENG

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

O.J.E.U. L 019, 24th January 2018 – Commission Implementing Regulation (EU) 2018/106 of 10 January 2018 approving non-minor amendments to the specification for a name entered in the register of protected designations of origin and protected geographical indications [Saint-Nectaire (cheese) (PDO)]
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.019.01.0003.01.ENG

STANDARDS - REGULATIONS

O.J.E.U. L 025, 30th January 2018 – Commission Implementing Regulation (EU) 2018/138 of 16 January 2018 entering a name in the register of protected designations of origin and protected geographical indications [Traditional Welsh Caerphilly/Traditional Welsh Caerffili (cheese) (PGI)]
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.025.01.0003.01.ENG

O.J.E.U. L 039, 13th February 2018 – Commission Implementing Regulation (EU) 2018/207 of 9 February 2018 approving non-minor amendments to the specification for a name entered in the register of protected designations of origin and protected geographical indications [Laguiole (cheese) (PDO]
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.039.01.0001.01.ENG

O.J.E.U. L 051, 23rd February 2018 – Commission Implementing Regulation (EU) 2018/207 of 9 February 2018 approving non-minor amendments to the specification for a name entered in the register of protected designations of origin and protected geographical indications [Squacquerone di Romagna (cheese) (PDO]
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.051.01.0001.01.ENG

PESTICIDES

O.J.E.U. L 013, 18th January 2018 – Commission Regulation (EU) 2018/73 of 16 January 2018 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 mercury compounds in or on certain products
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.013.01.0008.01.ENG

O.J.E.U. L 014, 19th January 2018 – Commission Regulation (EU) 2018/78 of 16 January 2018 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 2-phenylphenol, bensulfuron-methyl, dimethachlor and lufenuron in or on certain products
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2018.014.01.0006.01.ENG

REFERENCE LABORATORY

O.J.E.U. L 348, 29th December 2017 – Commission Regulation (EU) 2017/2460 of 30 October 2017 amending Annex VII to Regulation (EC) No 882/2004 of the European Parliament and of the Council on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules, as regards the list of Union reference laboratories
http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:OJ.L_.2017.348.01.0034.01.ENG

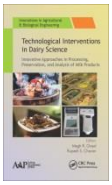
AFNOR VALIDATIONS

During its January meeting, the Technical Committee of NF VALIDATION approved by vote:

Commercial name	Date	Certificate	Description
RENEWALS OF VALIDATIONS			
ASSURANCE GDS *SALMONELLA*	Validation date: 26 Jan 2009 Renewal: 29 Nov 2012 and 25 Jan 2018 **End of validity: 26 Jan 2021**	**TRA-02/12-01/09**	**Detection of *Salmonella* spp.** All human food products (except sprouts), pet food and production environmental samples (except primary production environment)
IQ-CHECK *LISTERIA MONOCYTOGENES* II	Validation date: 7 Apr 2005 Extension: 15 Dec 2006, 28 Sep 2007, 4 Feb 2010, 22 Mar 2012 and 3 Oct 2013 Renewal: 26 Mar 2009, 28 Mar 2013 and 26 Jan 2018 **End of validity: 7 Apr 2021**	**BRD-07/10-04/05**	**Detection of *Listeria monocytogenes*** All human food products and production environmental samples
VIDAS *LISTERIA MONOCYTOGENES* XPRESS (LMX)	Validation date: 4 Feb 2010 Extension: 30 Jun 2011 Renewal: 28 Nov 2013 and 26 Jan 2018 **End of validity: 4 Feb 2022**	**BIO-12/27-02/10**	**Detection of *Listeria monocytogenes*** All human food products and production environmental samples
EXTENSIONS OF VALIDATIONS			
BAX SYSTEM PCR ASSAY *SALMONELLA* SPP. (AUTOMATISED)	Validation date: 28 Nov 2002 Extension: 30 Jun 2008, 27 Nov 2008, 18 May 2009, 24 Mar 2011, 22 Mar 2012, 28 Jan 2016 and 26 Jan 2018 Renewal: 29 Oct 2006, 24 Sep 2010 and27 Nov 2014 **End of validity: 28 Nov 2018**	**QUA-18/03-11/02**	**Detection of *Salmonella* spp.** All human food products, feed products and production environmental samples (except primary production environment)
BAX SYSTEM PCR ASSAY *E. COLI* O157:H7MP	Validation date: 28 Mar 2008 Extension: 28 Jan 2016 and 26 Jan 2018 Renewal: 3 Feb 2012 and 18 Mar 2016 **End of validity: 28 Mar 2020**	**QUA-18/04-03/08**	**Detection of *E. coli* O157:H7** Raw beef meats, raw milk, fruits and vegetables, ready-to-eat and ready-to-reheat dishes, raw pork, ovine and chicken meats
GENE-UP *SALMONELLA*	Validation date: 30 Jun 2016 Extension: 29 Sep 2016, 24 Mar 2017, 3 Jul 2017, 23 Nov 2017 and 26 Jan 2018 **End of validity: 30 Jun 2020**	**QUA-18/04-03/08**	**Detection of *Salmonella* spp.** All human food products, pet food products and production environmental samples (except primary production environment)
EXTENSION OF THE VALIDATION'S VALIDITY			
VIDAS *LISTERIA* DUO (LDUO)	Validation date: 9 Mar 2006 Extension: 30 Jun 2011 Renewal: 3 Dec 2009 and 30 Jan 2014 **End of validity: 9 Mar 2018** **Validity extended till : 31 May 2018**	**BIO-12/18-03/06**	**Detection of *Listeria monocytogenes* and *Listeria* spp.** All human food products and production 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 PUBLICATION



CHAVAN R.S.; GOYAL M.R. - **Technological interventions in dairy science: Innovative approaches in processing, preservation, and analysis of milk products** – CRC Press Editions – February 2018 – ISBN: 9781771886093 – 336 pages

https://www.crcpress.com/Technological-Interventions-in-Dairy-Science-Innovative-Approaches-in-Processing/Chavan-Goyal/p/book/9781771886093

This volume covers a selection of important novel technological interventions in dairy science, from the physical properties of milk and other milk products to nonthermal processing of milk. It also discusses safety methods in dairy science, which includes cleaning-in-place and techniques to determine adulteration in milk.

FORTHCOMING EVENTS

23-27 April 2018 Dublin, Ireland	IDF/ISO analytical week 2018	http://www.idfisodublin2018.com/
3-6 June 2018 Montreal, Canada	3rd FIL-IDF symposium on microstructure of dairy products 2018	https://www.elsevier.com/events/conferences/food-structure-and-functionality-forum-symposium

IN THE PRESS – ON THE WEB

FOOD ADDITIVES

Re-evaluation of celluloses E 460(i), E 460(ii), E 461, E 462, E 463, E 463, R 464, E 465, E 466, E 468 and E 469 as food additives

http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2018.5047/full

▸ Following a request from the European Commission, the EFSA Panel on Food Additives and Nutrients Added to Food (NSA) has issued a scientific opinion re-evaluating the safety of microcrystalline cellulose (E 460 (i)), 460 (ii)), methyl cellulose (E 461), ethyl cellulose (E 462), hydroxypropyl cellulose (E 463), hydroxypropyl methylcellulose (E 464), ethyl methyl cellulose (E 465), sodium carboxymethyl cellulose (E 466), enzymatically hydrolyzes carboxymethylcellulose (E 469) and crosslinked carboxymethylcellulose (E 468) as food additives. The Panel concluded that there was no need for a numerical ADI and that there would be no safety concern at the reported uses and use levels for the unmodified and modified celluloses

Re-evaluation of sodium, potassium and calcium salts of fatty acids (E 470a) and magnesium salts of fatty acids (E 470b) as food additives

https://efsa.onlinelibrary.wiley.com/doi/full/10.2903/j.efsa.2018.5180

▸ The EFSA Panel on Food Additives and Nutrient Sources added to Food (ANS) provides a scientific opinion re-evaluating the safety of sodium, potassium and calcium salts of fatty acids (E 470a) and magnesium salts of fatty acids (E 470b) when used as food additives. Palmitic- and stearic acid which are the main fatty acids in E 470a and E 470b were already considered of no safety concern in the re-evaluation of the food additive E 570. The fatty acid moieties of E 470a and E 470b contributed maximally for 5% to the overall intake of saturated fatty acids from all dietary sources. Overall, the Panel concluded that there was no need for a numerical ADI and that the food additives sodium, potassium, calcium and magnesium salts of fatty acids (E 470a and E 470b) were of no safety concern at the reported uses and use levels.

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