

NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Summary report

Validation study according to the EN ISO 16140-2:2016

RHAPSODY Agar®

(Certificate number: BKR 23/09 - 05/15 A & B)
for the enumeration of *Pseudomonas* spp.
in meat and dairy products

Quantitative method

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This report consists of 80 pages, including 9 appendices.

Only copies including the totality of this report are authorised.

Competencies of the laboratory are certified by COFRAC accreditation for the analyses marked with the symbol♦.

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Quality Assurance documents related to this study can be consulted upon request from **BIOKAR DIAGNOSTICS**.

The technical protocol and the result interpretation were realised according to the EN ISO 16140-2:2016 and the AFNOR technical rules (PR Revision 7).

Validation protocols	<ul style="list-style-type: none"> ▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i> ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i> ▪ AFNOR technical rules (Revision 6)
Reference methods[♦]	<ul style="list-style-type: none"> - NF EN ISO 13720 (November 2010): Meat and meat products. Enumeration of presumptive <i>Pseudomonas</i> spp. - XP ISO/TS 11059 (October 2009): Milk and dairy products. Method for enumeration of <i>Pseudomonas</i> spp.
Alternative method	RHAPSODY Agar[®] for enumeration of <i>Pseudomonas</i> spp.
Scope	<ul style="list-style-type: none"> > Meat products > Dairy products
Certification body	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The RHAPSODY Agar[®] method for the enumeration of *Pseudomonas spp.* was validated in May 2015 according to ISO 16140 (2003):

- in meat products in comparison with the reference method ISO 13720 (Certificate number^o BKR 23/09 - 05/15 A),
- in dairy products in comparison with the reference method XP ISO/TS 11059 (Certificate number BKR 23/09 - 05/15 B).

The method was renewed in May 2019 and April 2023 according to ISO 16140 (2016).

2 METHODS DESCRIPTION

2.1 Alternative method

2.1.1 Principle

The RHAPSODY Agar[®] method is based on the use of a chromogenic agar. The enumeration is obtained after 48 h \pm 3 h of incubation at 30° C \pm 1° C. The incubation range can be extended to 72 h.

Typical colonies of *Pseudomonas spp.* appear very pale blue to blue-green. No confirmatory testing is required.

2.1.2 Protocol

Different inoculation procedures are available (see **Appendix 1**):

- on the surface by manual spreading.
- on the surface using the Spiral plater.

2.1.3 Restriction

There is no restriction for use.

2.2 Reference methods♦

The reference methods used are the standards:

- ISO 13720 (November 2010): Meat and meat products – Enumeration of presumptive *Pseudomonas* spp.
- XP ISO/TS 11059 (October 2009): Milk and milk products – Enumeration of *Pseudomonas* spp.

The protocols are given in **Appendix 2**.

3 INITIAL VALIDATION AND RENEWAL STUDY: RESULTS

3.1 Method comparison study

The method comparison study is a study performed by the expert laboratory to compare the alternative method with the reference method.

The study was carried out on a diversity of samples and strains representative of agri-food products. This does not constitute an exhaustive list of the different matrices included in the scope.

For any comment on the alternative method, please contact AFNOR Certification at <http://nf-validation.afnor.org/contact-2/>.

3.1.1 Relative trueness study

The relative trueness is the degree of correspondence between the response obtained by the reference method and the response obtained by the alternative method on identical samples.

3.1.1.1 Number and nature of samples

Two food categories were tested. The experimental design was carried out in order to fulfil the requirements of ISO 16140-2:2016.

The distribution of samples per category, type and protocol is shown in **Table 1**.

Table 1 - Number of interpretable results per category, type and protocol

Category	Type		Number of samples tested		Number of interpretable results				
			Spreading method	Spiral	Spreading method		Spiral		
					45h	72h	45h	72h	
1	Meat products	a	Raw meat	8	8	8	8	5	5
		b	Raw poultry	6	6	5	5	5	5
		c	Cured products	12	12	6	7	5	5
	Total			26	26	19	20	15	15
2	Dairy products	a	Heat treated	16	16	5	6	5	6
		b	Raw	10	14	5	5	5	5
		c	Dairy desserts	10	10	9	9	6	6
	Total			36	40	19	40	16	17
Total				62	66	38	40	31	32

In total, 66 samples were analysed (62 for the spreading method and 66 for the Spiral method), to obtain:

- 38 (45 h) et 40 (72 h) interpretable results with the spreading method,
- 31 (45 h) et 32 (72 h) interpretable results with the Spiral method,

3.1.1.2 Artificial contamination of samples

Naturally contaminated samples were preferably tested but artificial contaminations were also carried out. The inoculated samples, the used strains and the stress protocols applied are given in **Appendix 3**.

11 samples were contaminated; 6 samples gave interpretable results.

The percentage of naturally contaminated samples varies from 80.6% to 84.6% depending on the plate inoculation protocol used and incubation time applied.

3.1.1.3 Raw data

The raw data are shown in **Appendix 4**.

Duplicate analyses were performed for the initial validation study as required by ISO 16140 (2003), only replicate No. 1 was used for interpretation according to ISO 16140-2:2016.

The samples were analyzed by the reference and the alternative methods in order to have 15 interpretable results per category, and 5 interpretable results per tested type.

The data are classified in four categories (See **Table 2**):

- Interpretable results with the reference method and the alternative method;
- Results with less than 4 colonies per plate with the reference and/or the alternative method (indicated with “*” in the data) in order to have a more precise result. These results are not included in the calculation.
- Results below or above the quantification limit: according to the ISO 16140-2:2016, if any result (either reference or alternative method) is below the quantification limit, the data should be plotted using a substituted value of 1 log₁₀ units less than the observed value in case of a lower than value. Similarly, any value greater than the upper limit should be amended by adding 1 log unit. These results are not included in the calculations but also appear on the graphs.
- Samples with no result (ND): results not determined as the size of the colonies does not enable enumeration.

Table 2 - Classification of data

Category	Type	Number of samples analysed	Number of samples without result	Spreading						
				45h			72h			
				Number of interpretable results	Number of samples with < 4 colonies/ plate	Number of samples with results below or above the limit of quantification	Number of interpretable results	Number of samples with < 4 colonies/ plate	Number of samples with results below or above the limit of quantification	
1	Meat products	a Raw meat	8	0	8	0	0	8	0	0
		b Raw poultry	6	0	5	1	0	5	0	1
		c Cured products	12	0	6	2	4	7	2	3
	Total	26	0	19	3	4	20	2	4	
2	Dairy products	a Heat treated	16	1	5	0	10	6	0	9
		b Raw	10	0	5	0	5	5	0	5
		c Dairy desserts	10	0	9	0	1	9	0	1
	Total	36	1	19	0	16	20	0	15	
Total		62	1	38	3	20	40	2	19	

Category	Type	Number of samples analysed	Number of samples without result	Spiral						
				45h			72h			
				Number of interpretable results	Number of samples with < 4 colonies/ plate	Number of samples with results below or above the limit of quantification	Number of interpretable results	Number of samples with < 4 colonies/ plate	Number of samples with results below or above the limit of quantification	
1	Meat products	a Raw meat	8	0	5	2	1	5	3	0
		b Raw poultry	6	0	5	1	0	5	1	0
		c Cured products	12	0	5	2	5	5	3	4
	Total	26	0	15	5	6	15	7	4	
2	Dairy products	a Heat treated	16	1	5	0	10	6	0	9
		b Raw	14	2	5	0	7	5	0	7
		c Dairy desserts	10	0	6	3	1	6	3	1
	Total	40	3	16	3	18	17	3	17	
Total		66	3	31	8	24	32	10	21	

The samples, which were not used in the calculations, are provided in **Table 3**.

Table 3 – Samples which were not used in the calculations

Sample No	Product	ISO	Alternative method: RHAPSODY Agar Spreading		Category	Type
			45 h	72 h		
4248	Quail	5,30*	5,30*	<5,60	1	b
3938	Nature bacon	<1,00	1,00*	1,00*	1	c
4067	Salted pork belly	2,51	<1,00		1	c
4069	Pig muzzle with tongue	<2,00	<1,00	<1,00	1	c
4070	Cooked ham	1,30*	1,60	1,60	1	c
4244	Salami	0,70*	1,00*	1,30*	1	c
4245	Sausage	1,70	<1,00	<1,00	1	c
3945	Mozzarella	<1,00	<1,00	<1,00	2	a
3946	Pasteurized half skimmed milk	<1,00	<1,00	<1,00	2	a
4074	Pasteurized half skimmed milk	<1,00	<1,00	<1,00	2	a
4075	Pasteurized half skimmed milk	<1,00	<1,00	<1,00	2	a
4384	Pasteurized half skimmed milk	4,41	<3,00		2	a
4451	Pasteurized crème fraiche	<1,00	<1,00	<1,00	2	a
4452	Pasteurized milk butter	<1,00	2,00*	2,00	2	a
4453	Mozzarella	<3,00	3,30*	3,30*	2	a
4454	Mozzarella	<2,00	<2,00	<2,00	2	a
4561	Goat cap with pasteurized milk	ND	4,11	4,11	2	a
4846	Cheese (Bethmale)	<3,00	2,89	2,92	2	a
4450	Raw goat milk cheese	>4,18	>4,18	>4,18	2	b
3943	Raw milk cheese (Morbier)	<2,00	1,00*	1,00*	2	b
3944	Raw cream	<1,00	<1,00	<1,00	2	b
4071	Cheese (Saint Nectaire)	<3,00	3,59	3,59	2	b
4385	Whole raw milk cottage cheese	<3,00	1,48*	2,66	2	b
4249	Rice pudding	<1,00	<1,00	<1,00	2	c

No	Product	ISO	Alternative method: RHAPSODY Agar Spiral		Category	Type
			45h	72h		
4439	Frozen ground steak	2,62	<2,90	2,60*	1	a
4441	Frozen sirloin bib	2,36	2,30*	2,78*	1	a
4442	Frozen veal cutlet	2,41	2,30*	2,30*	1	a
4248	Quail	5,30*	4,68	4,83	1	b
3938	Nature bacon	<1,00	<2,30	2,30*	1	c
4067	Salted pork belly	2,51	2,30*	2,30*	1	c
4068	Perched head pate	2,46	2,60*	2,60*	1	c
4069	Pig muzzle with tongue	<2,00	<2,30	<2,30	1	c
4070	Cooked ham	1,30*	<2,30	2,30*	1	c
4244	Salami	0,70*	<2,30	<2,30	1	c
4245	Sausage	1,70	<2,30	<2,30	1	c
3945	Mozzarella	<1,00	<2,30	<2,30	2	a
3946	Pasteurized half skimmed milk	<1,00	<2,30	<2,30	2	a
4074	Pasteurized half skimmed milk	<1,00	<2,30	<2,30	2	a
4075	Pasteurized half skimmed milk	<1,00	<2,30	<2,30	2	a
4384	Pasteurized half skimmed milk	4,41	<2,30		2	a
4451	Pasteurized cream	<1,00	<2,30	<2,30	2	a
4452	Pasteurized milk butter	<1,00	<2,30	<2,30	2	a
4453	Mozzarella	<3,00	2,90	2,90	2	a
4454	Mozzarella	<2,00	2,30*	2,30*	2	a
4561	Goat cap with pasteurized milk	ND	4,11	4,11	2	a
4846	Cheese (Bethmale)	<3,00	2,78*	2,78*	2	a
4385	Whole raw milk cottage cheese	<3,00	2,30*	2,30*	2	b
4450	Goat raw milk cheese	>4,18	ND	ND	2	b
4552	Goat cheese with raw milk	>7,00	6,45	6,36	2	b
4553	Ewe raw milk cheese with raw milk	>7,00	4,30	4,30	2	b
4554	Goat cheese with raw milk	ND	5,53	5,52	2	b
3943	Raw milk cheese (Morbier)	<2,00	<2,30	<2,30	2	b
3944	Raw cream	<1,00	<2,30	<2,30	2	b
4071	Cheese (Saint Nectaire)	<3,00	3,64	3,64	2	b
4072	Cheese (Selles sur Cher)	1,78	<2,30	<2,30	2	b
4249	Rice pudding	<1,00	<2,30	<2,30	2	c
4250	Chantilly (Black Forest)	3,28	2,60*	2,78*	2	c
4382	Nougat ice cream	2,61	2,30*	2,30*	2	c
4383	Salted butter caramel ice cream	2,18	2,78*	2,78*	2	c

ND: not determined result

*: samples with less than 4 colonies on the plate

3.1.1.4 *Statistical interpretation*

The calculations are provided in **Appendix 5**.

The obtained data were analyzed using the scatter plot. The graphs are provided with the line of identity ($y = x$).

Figures 1 and 2 show the data plotted for each individual category. **Figure 3** shows the data plotted for all the products.

Figure 1 – Data plotted for Meat products

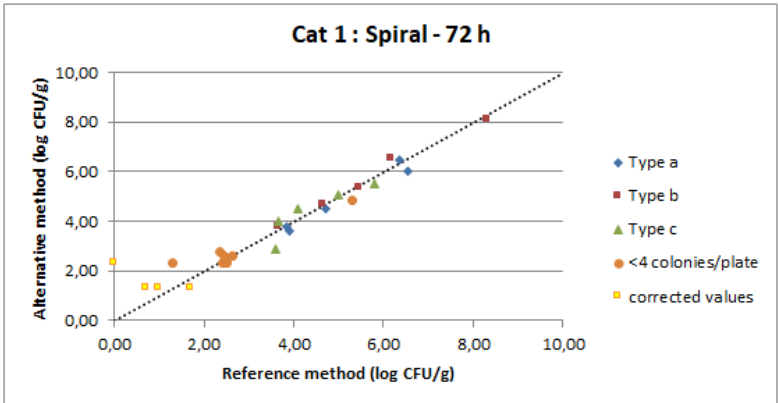
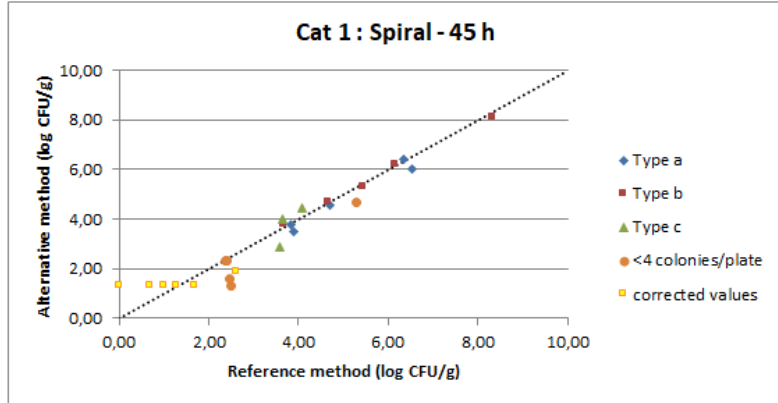
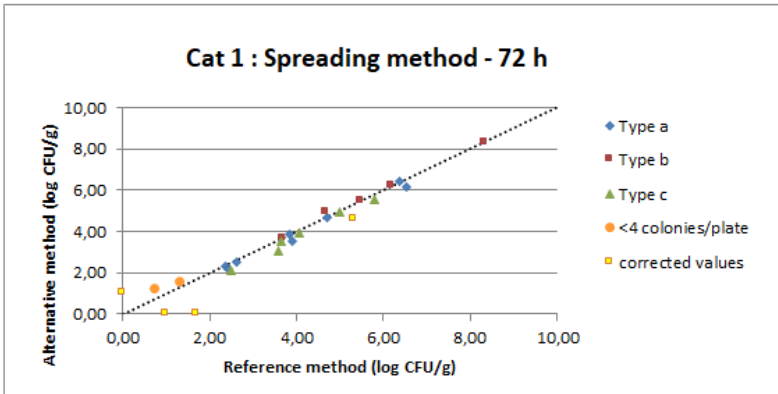
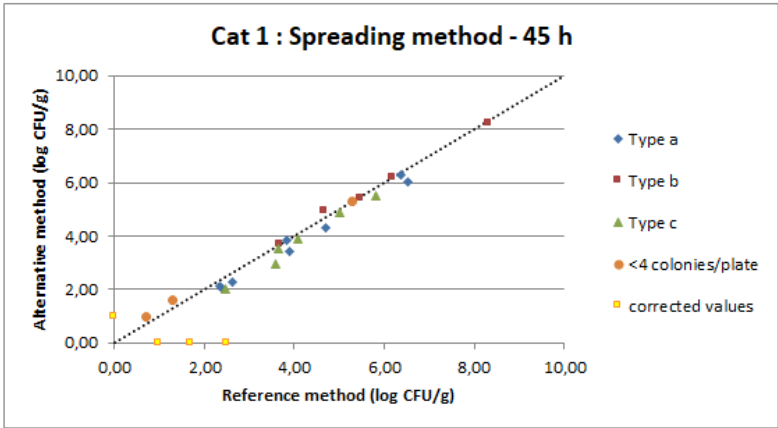


Figure 2 – Data plotted for Milk products

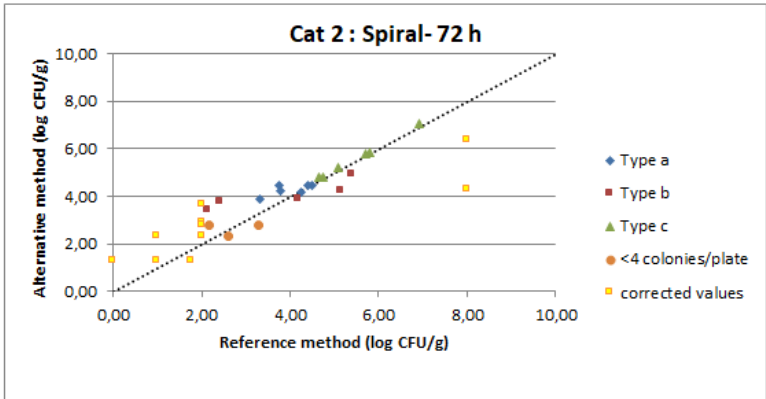
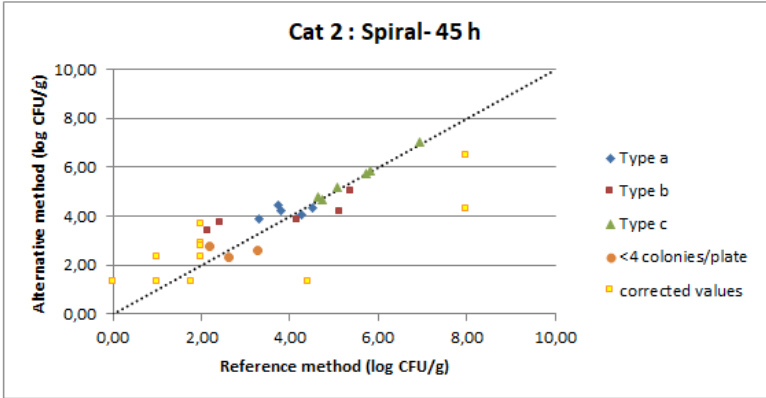
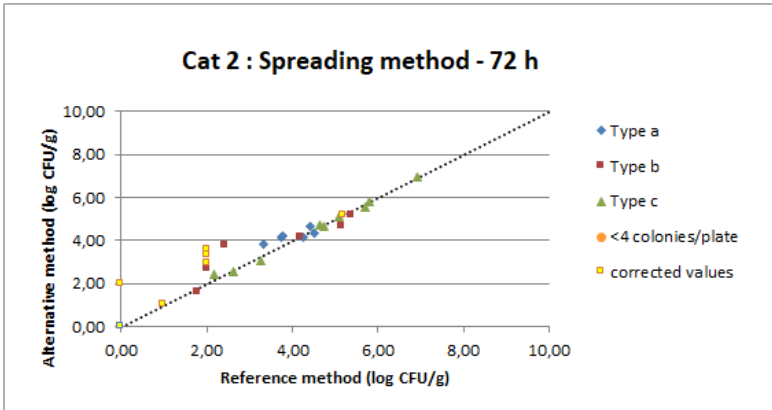
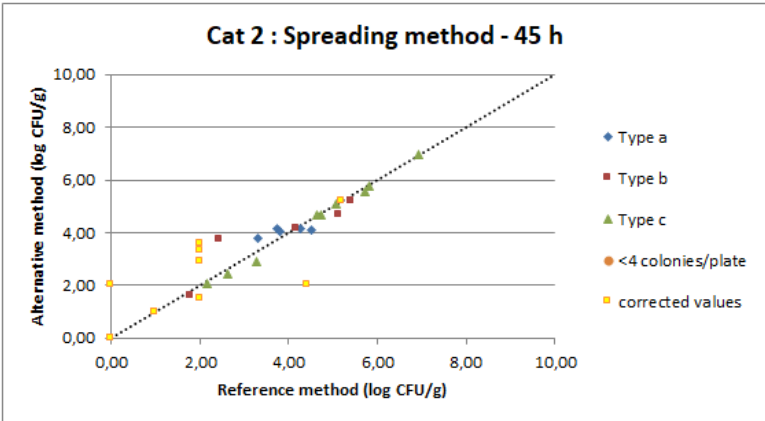
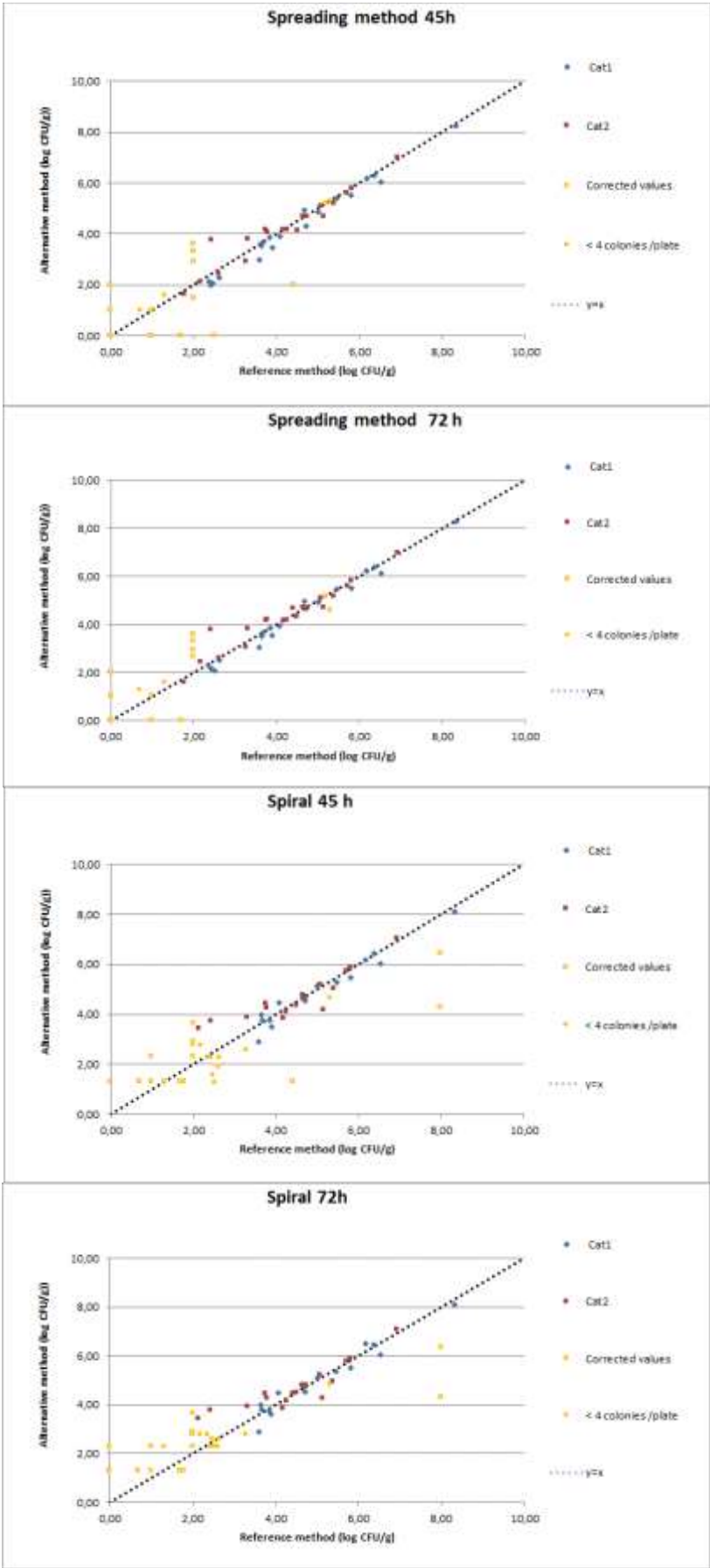


Figure 3 – Data plotted for All the products



The calculated values for the Average difference and Standard deviation differences per category as well as the upper and lower 95% confidence limit are provided in **Table 4**.

Table 4 – Calculated values

Incubation time		Category	n	\bar{D} (bias)	95% lower limit	95% upper limit
Spreading method	45h	Meat products	19	-0,21	-0,70	0,27
		Dairy products	19	0,01	-0,84	0,86
		All categories	38	-0,10	-0,79	0,59
	72h	Meat products	19	-0,13	-0,57	0,32
		Dairy products	20	0,09	-0,76	0,93
		All categories	39	-0,02	-0,69	0,65
Spiral	45h	Meat products	15	-0,09	-0,76	0,57
		Dairy products	16	0,20	-1,10	1,50
		All categories	31	0,05	-0,95	1,05
	72h	Meat products	15	0,00	0,00	0,00
		Dairy products	17	0,22	-1,01	1,45
		All categories	32	0,08	-0,90	1,06

\bar{D} : Average difference (bias)

SD: standard deviation of differences

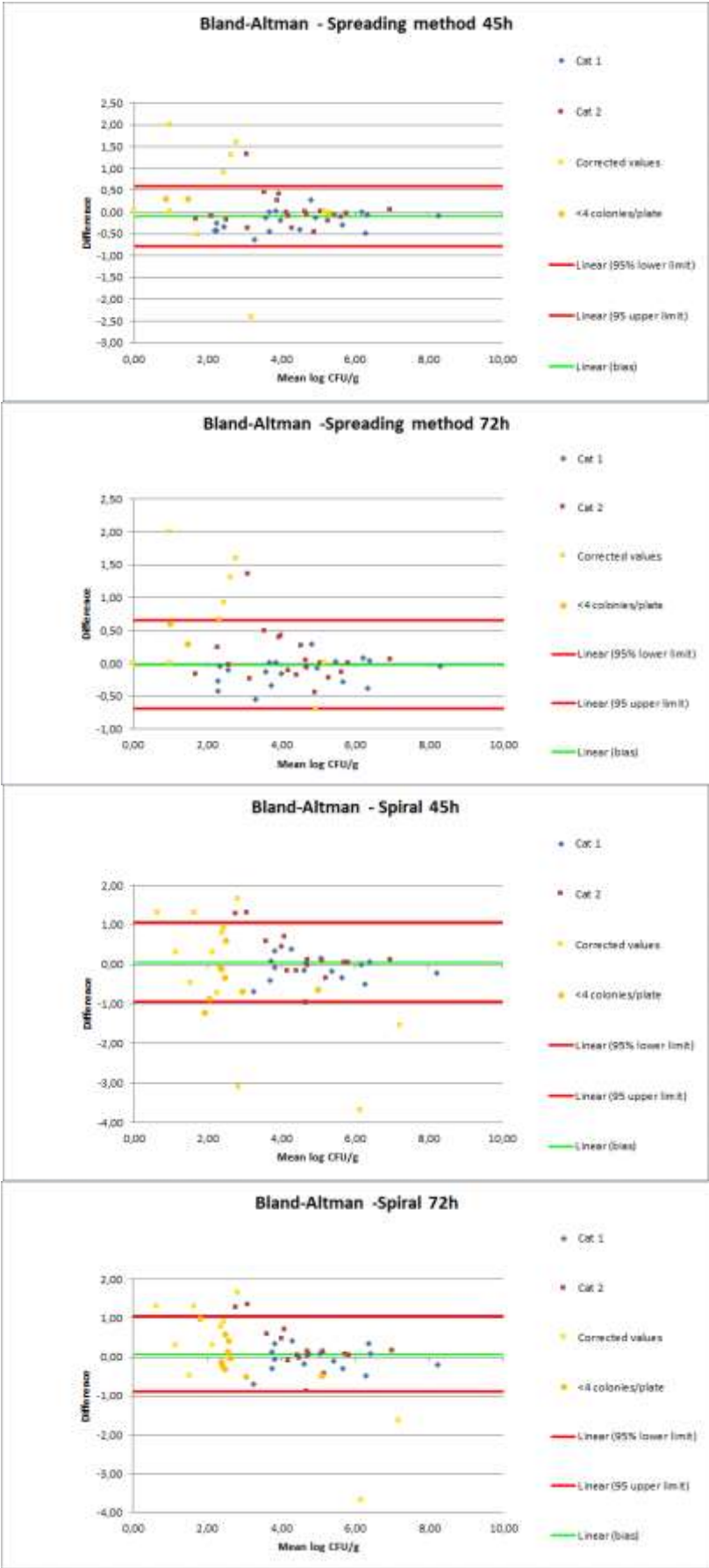
The bias ranges from – 0.10 log to 0.08 log depending on the method of inoculation and the incubation time.

The 95% lower limit varies from – 0.90 log (Spiral – 72 h) to- 0.69 log (Spreading method – 72 h).

The 95% upper limit varies from 0.59 log (Spreading method – 45 h) to 1.06 log (Spiral – 72 h).

The Bland-Altman graphs for all the categories are represented in **Figure 4**.

Figure 4 – Bland Altman graph for all categories



The samples for which differences in enumeration were observed are listed according to the protocol applied for the alternative method (refer to **Table 5**).

Table 5 – Analysis of the data out of the confidence limits

Values in green:

difference in favour of the alternative method

Values in red:

differences in favour of the reference method



Corrected value as per ISO 16140-2:2016 (enumeration below or above the limit of quantification)

Results calculated using enumeration lower than 4 CFU/plate

Spreading method 45h										
Classification of data	Category	Type	Sample	Product	Reference method	Alternative method	Values before correction (reference and/or alternative method)	Mean	Difference	Lower / Upper limits
Interpretable results by both methods	2	b	4555	Butter half salt with raw milk	2,43	3,74	/	3,09	1,31	-0,79 / 0,59
< or > limit of quantification	2	a	4384	Pasteurized half skimmed milk	4,41	2,00	1,00	3,21	-2,41	
	2	a	4452	Pasteurized milk butter	0,00	2,00	1,00	1,00	2,00	
	2	a	4453	Mozzarella	2,00	3,30	3,00	2,65	1,30	
	2	a	4846	Cheese (Bethmale)	2,00	2,89	3,00	2,44	0,89	
	2	b	4071	Cheese (Saint Nectaire fermier)	2,00	3,59	3,00	2,80	1,59	

Spreading method-72h										
Classification of data	Category	Type	Sample	Product	Reference method	Alternative method	Values before correction (reference and/or alternative method)	Mean	Difference	Lower / Upper limits
Interpretable results by both methods	2	b	4555	Butter half salt with raw milk	2,43	3,79	/	3,11	1,36	-0,69 / 0,65
< or > limit of quantification	1	b	4248	Quail	5,30	4,60	3,60	4,95	-0,70	
	2	b	4385	Whole raw milk cottage cheese	2,00	2,67	3,00	2,34	0,67	
	2	a	4452	Pasteurized milk butter	0,00	2,00	1,00	1,00	2,00	
	2	a	4453	Mozzarella	2,00	3,30	3,00	2,65	1,30	
	2	a	4846	Cheese (Bethmale)	2,00	2,92	3,00	2,46	0,92	
	2	b	4071	Cheese (Saint Nectaire fermier)	2,00	3,59	3,00	2,80	1,59	

Spiral 45h										
Classification of data	Category	Type	Sample	Product	Reference method	Alternative method	Values before correction (reference and/or alternative method)	Mean	Difference	Lower / Upper limits
Interpretable results by both methods	2	b	4073	Raw milk	5,15	4,18	/	4,66	-0,97	-0,95/ 1,05
	2	b	4555	Butter half salt with raw milk	2,43	3,73	/	3,08	1,30	
	2	b	4556	Butter half salt with raw milk	2,15	3,41	/	2,78	1,26	
< 4 CFU/plate	1	c	4067	Salted pork belly	2,51	1,30	/	1,90	-1,21	
< or > limit of quantification	2	a	4384	Pasteurized half skimmed milk	4,41	1,30	2,30	2,86	-3,11	
	2	b	4552	Raw goat milk cheese	8,00	6,45	7,00	7,22	-1,55	
	2	b	4553	Raw ewe milk cheese	8,00	4,30	7,00	6,15	-3,70	
	2	a	3945	Mozzarella	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	3946	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	b	4071	Cheese (Saint Nectaire)	2,00	3,64	3,00	2,82	1,64	
	2	a	4074	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4075	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4451	Pasteurized cream	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4452	Pasteurized milk butter	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4454	Mozzarella	1,00	2,30	2,00/2,30	1,65	1,30	
2	b	3944	Raw cream	0,00	1,30	1,00/2,30	0,65	1,30		
2	c	4249	Rice pudding	0,00	1,30	1,00/2,30	0,65	1,30		

Spiral 72h										
Classification of data	Category	Type	Sample	Product	Reference method	Alternative method	Values before correction (reference and/or alternative method)	Mean	Difference	Lower / Upper limits
Interpretable results by both methods	2	b	4555	Butter half salt with raw milk	2,43	3,76	/	3,10	1,33	-0,90 / 1,06
	2	b	4556	Butter half salt with raw milk	2,15	3,41	/	2,78	1,26	
< or > limit of quantification	2	b	4552	Raw goat milk cheese	8,00	6,36	7,00	7,18	-1,64	
	2	b	4553	Raw ewe milk cheese	8,00	4,30	7,00	6,15	-3,70	
	2	a	3945	Mozzarella	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	3946	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4074	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4075	Pasteurized half skimmed milk	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4451	Pasteurized cream	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4452	Pasteurized milk butter	0,00	1,30	1,00/2,30	0,65	1,30	
	2	a	4454	Mozzarella	1,00	2,30	2,00	1,65	1,30	
	2	b	3944	Raw cream	0,00	1,30	1,00/2,30	0,65	1,30	
	2	b	4071	Cheese (Saint Nectaire)	2,00	3,64	3,00	2,82	1,64	
	2	c	4249	Rice pudding	0,00	1,30	1,00/2,30	0,65	1,30	

3.1.1.5 *Discordant results*

The samples are classified in three categories (See **Table 6**).

Table 6 – Classification of the samples

		Number of samples			
		Spreading method		Spiral	
		45h	72h	45h	72h
Interpretable results by both methods	< LCL	0	0	1	0
	> UCL	1	1	2	2
	Total	1	1	3	2
<4 CFU/plate	< LCL	0	0	0	0
	> UCL	0	0	1	0
	Total	0	0	1	0
< or > limit of quantification	< LCL	1	1	3	2
	> UCL	4	5	10	10
	Total	5	6	13	12
Total < LCL		1	1	4	2
Total >UCL		5	6	13	12
Total		6	7	17	14

UCL: Upper Confidence limit

LCL: Lower confidence limit

Taking into account all the results, the number of samples above the confidence limits is greater than the number of samples below the confidence limits.

The observed bias is, for the four conditions tested, very close to 0.

3.1.1.6 *Conclusion*

The relative accuracy of the RHAPSODY method is satisfactory.

3.1.2 Accuracy profile

The accuracy profile study is a comparative study between the results obtained by the reference and the results of the alternative method. This study is conducted using artificially contaminated samples, using one type per category.

3.1.2.1 Matrices

Six matrices (2 batches per matrix) were tested with three contamination levels and five replicates per level. The tested categories, types, matrix and inoculated strains are provided in **Table 7**.

Table 7 - Categories, types and matrices

Category	Type	Matrix	Strain	Inoculation level (CFU/g)	
				Spreading method	Spiral
Meat products	Cured meat products	Duck mousse Batch 1	<i>Pseudomonas putida</i> 4	300 * 6 000 60 000	6 000 * 100 000 600 000
		Batch 2			
Dairy products	Milk desserts	Dessert cream Batch 1	<i>Pseudomonas josenii</i> Ad1143		
		Batch 2			

* The low rate corresponds to a minimum of 30 colonies counted on the plate at 1/10 dilution

3.1.2.2 Calculations and interpretations

The raw data are shown in **Appendix 6**. The summary tables (log CFU/g) and calculations are shown in **Appendix 7**. The statistical results and accuracy profiles are shown in **Figure 5**.

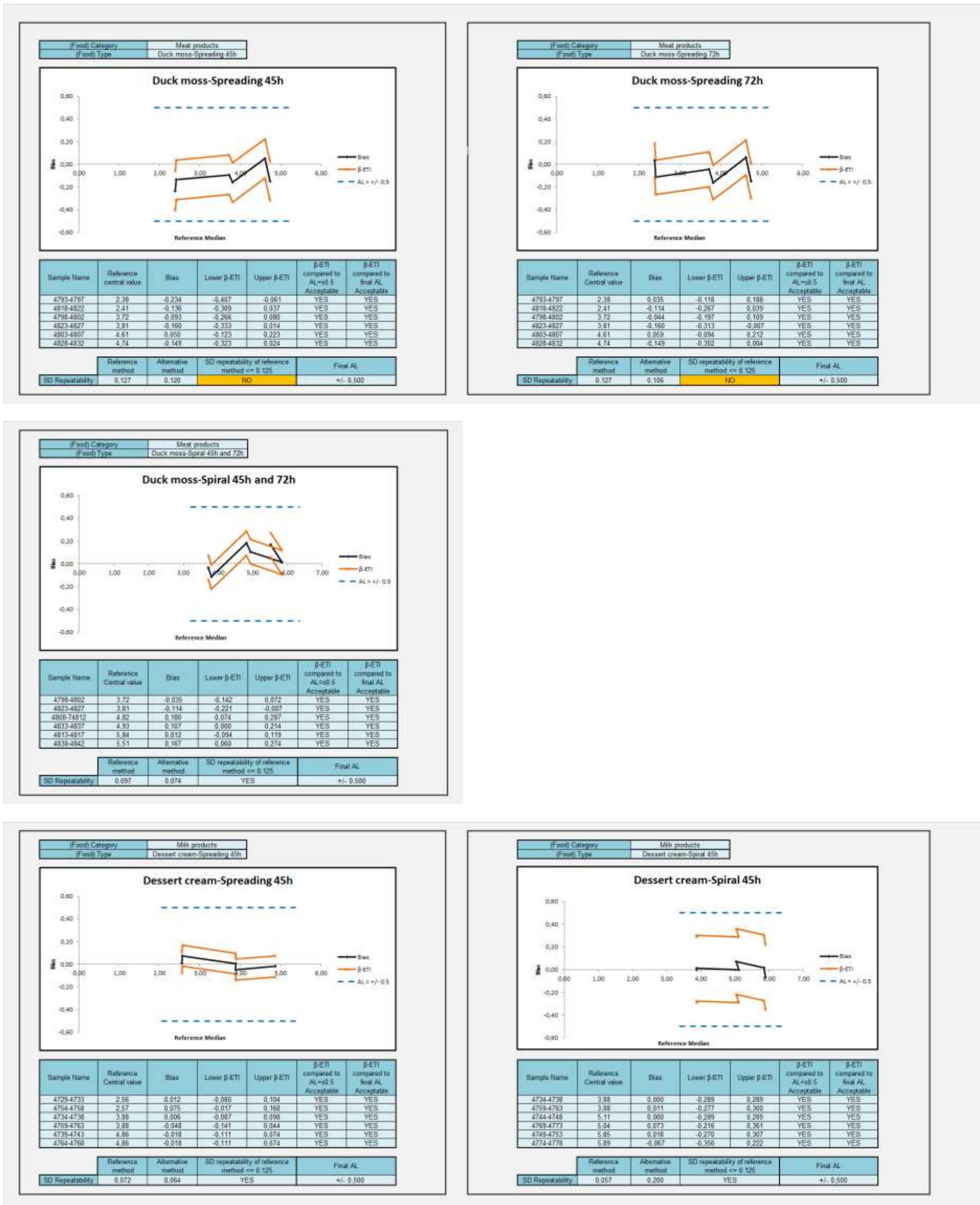
The calculations were performed using the spreadsheet available on the ISO website (<http://standards.iso.org/iso/16140>).

For the two matrices tested, the profiles are between the acceptability limits set at $\pm 0,500$ log.

It was not planned to test a 72-hour incubation for accuracy profiles but since the colonies observed for duck moss were small, it was decided to extend the incubation up to 72 h for this matrix.

A slight change in enumeration results was observed between 45 h and 72 h of incubation for this matrix for the spreading method.

Figure 5 – Accuracy profiles



3.1.2.3 Conclusion

The accuracy profiles are within the acceptability limits for the two matrices tested. The results observed are satisfactory.

3.1.3 Inclusivity / Exclusivity

The inclusivity is the ability of the alternative method to detect the target analyte from a wide range of strains. Exclusivity is the absence of interference by an appropriate range of non-target strains of the alternative method.

3.1.3.1 Protocols

> **Inclusivity**

Fifty strains of *Pseudomonas* were tested and enumerated in parallel by the 2 reference methods and the alternative spreading method. An enumeration was carried out in parallel on PCA agar by spreading.

> **Exclusivity**

Thirty-one negative strains were tested as described above.

3.1.3.2 Results

The raw data are provided in **Appendix 8**.

> **Inclusivity**

Of the 50 strains tested, 2 strains did not grow on RHAPSODY agar (*Pseudomonas otitidis* Ad1880 and *Pseudomonas* sp. Ad2005). A strain grown giving white colonies after 45 h of incubation, but typical after 72 h of incubation.

> **Exclusivity**

Of the 30 strains tested, 2 grown on RHAPSODY agar by giving either blue micro-colonies (*Pandora sp.* Ad1882) at 45 h, or cream-coloured colonies (*Okibacterium fritillariae* Ad1117).

After 72 h incubation, the cream-coloured colonies evolved into pale green colouring; this strain also developed on CFC and PPA agar, but colonies were not confirmed (negative oxidase strain). 3 strains developed on PPA agar used for the reference method and were confirmed positive for the presence of *Pseudomonas* (oxidase +

and BPC glucose). These strains did not grow on RHAPSODY agar. These are the strains of *Chryseobacterium ureilyticum* Ad1340, *Flavobacterium hydratis* Ad1323, *Ochrobactrum pseudintermedium* Ad1057.

3.2 Practicability

Practicability was assessed using the 13 criteria defined in the validation study requirements:

✓ Storage conditions, shelf-life and modalities of utilisation after first use	Agar will keep at 2 – 8°C for 4 months.			
✓ Time to result	<i>In the case that no suspicious colony is visible on the environment, the times for obtaining the results are as follows:</i>			
	Step	Reference method		Alternative method
		ISO 13720	ISO 11059	
	Sampling, analysis	D0	D0	D0
	Enumeration	D2	D2	D2
	Oxidase test	D2	/	
	<i>In the case where colonies are present on selective agars, the time limits for obtaining the results are as follows:</i>			
	Step	Reference method		Alternative method
		ISO 13720	ISO 11059	
	Sampling, analysis	D0	D0	D0
	Enumeration	D2	D2	D2
	Oxidase test	D2	/	/
	Streaking	/	D2	/
	Oxidase test and BCP	/	D3	/
	Reading BCP	/	D4	/
✓ Steps shared with the reference method	Preparation of the suspension and dilution is common.			

Results are available at day 2 for the alternative method whatever the matrix tested, while 2 days are needed (ISO 13720) or 4 days (XP ISO/TS 11059) to have the enumeration of confirmed *Pseudomonas* spp. confirmed by the reference method.

3.3 Inter-laboratory study

The inter-laboratory study is a study performed by multiple laboratories testing identical samples at the same time, the results of which are used to estimate alternative method performance parameters.

The results of the inter-laboratory study conducted in 2015 were evaluated **using the Excel sheet on the ISO website** (<http://standards.iso.org/iso/16140>).

3.3.1 Study organization

Sixteen laboratories took part in the inter-laboratory study. Detailed instructions were sent to the laboratories by the expert laboratory on March 2, 2015.

The study involved smoked ham rolls (cheese specialty), inoculated with *Pseudomonas fluorescens* Ad 2249, isolated from raw milk.

The inoculation levels were as follows:

- 0 CFU/g
- 1 000 CFU/g
- 10 000 CFU/g
- 100 000 CFU/g.

Samples were inoculated and shipped on Monday, March 16, 2015. Each collaborating laboratory received 8 coded samples (10 g) for the enumeration of *Pseudomonas* spp. by the alternative method RHAPSODY Agar (spreading method) and the reference methods NF EN ISO 13720 (November 2010) et XP ISO/TS 11059 (October 2009).

A non-inoculated sample was added to the parcel for enumeration of the mesophilic aerobic microflora using the ISO 4833-1 method.

Coded samples (code only known by the expert laboratory) were placed in isothermal boxes which contained cooling blocks and were express shipped to the different laboratories.

A vial bottle containing water and a temperature data logger was added to each parcel to monitor the temperature upon receipt, during the shipment and the storage in the laboratory until the analysis is performed.

The samples were delivered to the collaborators in 24 h.

The collaborators and expert laboratory carried out the analyses using the reference methods (NF EN ISO 13720 and XP ISO/TS 11059) and the alternative method Wednesday 18th March 2015 (D2).

3.3.2 Experimental parameters controls

3.3.2.1 Stability of the strain

In order to test the stability of the strain of *Pseudomonas fluorescens* Ad 2249, a duplicate enumeration was made on all levels on the day of inoculation, and after 24 h and 48 h of storage at 3°C ± 2°C (See **Table 8**).

Table 8 – Sample stability (CFU/g)

	Level 1			Level 2			Level 3			Aerobic mesophilic flora
	RHAPSODY Agar	CFC ¹	PPA ²	RHAPSODY Agar	CFC	PPA	RHAPSODY Agar	CFC	PPA	
Day 0	770	970	890	8900	10000	7600	88000	86000	83000	4,2.10 ⁶
	970	1100	760	10000	9700	8900	80000	110000	81000	
Day 2	510	570	630	6200	4200	4600	49000	39000	59000	2,5.10 ⁷
	390	450	430	6900	5600	7000	63000	63000	37000	

A decrease of *Pseudomonas* enumeration was observed, for all three methods, after 48 h of storage at 3°C ± 2°C.

¹ CFC: ISO 13720

² PPA: XP ISO/TS 11059

3.3.2.2 Logistic conditions

The temperatures measured upon receipt by the collaborators, the temperatures recorded by the data logger, and the dates of receipt are shown in **Table 9**.

Table 9 – Temperatures of the samples upon receipt

Collaborators	Temperature measured by the probe (°C)	Temperature measured upon receipt (°C)	Date and time of sample receipt	
A	1,0	1,8	17/03/2015	08h45
B	1,5	2,7	17/03/2015	09h15
C	2,0	3,5	17/03/2015	11h45
D	1,0	2,0	17/03/2015	08h30
E	2,0	2,3	17/03/2015	09h00
F	2,0	3,6	17/03/2015	08h35
G	1,0	2,5	17/03/2015	09h00
H	1,5	3,6	17/03/2015	08h35
I	1,0	2,9	17/03/2015	09h55
J	3,5	3,1	17/03/2015	10h00
K	1,0	4,5	17/03/2015	10h15
L	0,5	<i>Not measured</i>	17/03/2015	10h00
M	2,0	2,5	17/03/2015	12h40
N	2,0	9,0	17/03/2015	12h30
O	1,5	2,5	17/03/2015	12h45
P	2,0	6,1	17/03/2015	11h30

All packages were delivered within 24 hours. One laboratory (N) measured a temperature of 9.0°C upon receipt, but the temperature probe shows a temperature of 2.0°C.

Laboratory L didn't measure temperature upon receipt, but the probe shows a temperature of 0.5°C.

No anomalies were observed during transport.

3.3.3 Result analysis

The raw data are provided in **Appendix 9**.

3.3.3.1 Enumeration of mesophilic aerobic flora

The enumeration of mesophilic aerobic flora of the matrix was carried out according to the method ISO 4833-1. The results range from 90 UFC/g to $5,9 \cdot 10^6$ UFC/g.

3.3.3.2 Results obtained by the expert laboratory

The results obtained by the expert laboratory are the following (See **Table 10**).

Table 10 – Results obtained by the expert laboratory (CFU/g)

Target level (log CFU/g)	Reference methods [♦]		Alternative method RHAPSODY Agar
	ISO 13720	ISO XP/TS 11059	
< 1	< 1,00	< 1,00	< 1,00
	< 1,00	< 1,00	< 1,00
3,0	3,00	3,23	3,20
	3,15	3,04	3,18
4,0	3,99	4,00	3,98
	4,11	4,15	4,11
5,0	5,08	5,04	5,08
	5,00	5,00	5,00

3.3.3.3 Results obtained by the collaborators

Sixteen laboratories participated in the study; two laboratories did not follow the protocol described in the instructions sent. Indeed, the 1/100 dilution was not carried out (spreading of 0.1 ml of the stock suspension). These two laboratories (H and L) were not retained for statistical interpretation.

A summary of the results obtained by all the collaborators is provided in the following tables:

- Reference method / NF EN ISO 13720: **Table 11** (CFU/g) and **Table 12** (log CFU/g).
- Reference method / ISO XP/TS11059: **Table 13** (CFU/g) and **Table 14** (log CFU/g).

Table 11 – Summary of the results obtained by the alternative method and the NF EN ISO 13720 reference method (CFU/g)

Laboratories	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method	
A	<10	<10	<10	<10	1600	1300	1300	1300	7800	7500	10000	11000	100000	200000	130000	120000
B	<10	<10	<10	<10	430	400	850	850	2500	3600	2100	910	28000	13000	15000	10000
C	<10	<10	<10	<10	700	410	2000	1600	7900	6200	12000	11000	99000	120000	140000	150000
D	<10	<10	<10	<10	1000	940	1400	1500	12000	9100	13000	12000	130000	150000	140000	190000
E	<10	<10	<10	<10	2500	7000	930	1200	15000	11000	8200	7500	330000	110000	85000	88000
F	<10	<10	<10	<10	1200	4100	1500	670	6600	9400	6800	6500	85000	130000	85000	74000
G	<10	<10	<10	<10	1100	930	1400	1200	11000	18000	7400	11000	270000	100000	140000	81000
I	<10	<10	<10	<10	1500	1500	1600	1500	11000	9500	7800	11000	120000	150000	100000	130000
J	<10	<10	<10	<10	720	730	1300	1700	6300	5500	9600	8500	74000	77000	76000	85000
K	<10	<10	<10	<10	530	260	670	680	7100	7000	7500	7100	110000	82000	88000	140000
M	<10	<10	<10	<10	1500	1100	1500	2000	21000	15000	10000	12000	230000	430000	150000	180000
N	<10	<10	<10	<10	1200	910	1800	1800	15000	9000	14000	22000	87000	130000	150000	140000
O	<10	<10	<10	<10	1300	1400	1200	1900	12000	15000	13000	13000	230000	110000	120000	130000
P	<10	<10	<10	<10	930	1100	1400	1800	11000	11000	8000	11000	150000	150000	210000	130000

Table 12 - Summary of the results obtained by the alternative method and the NF EN ISO 13720 reference method (log CFU/g)

Laboratories	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method	
A	<1,00	<1,60	<1,00	<1,00	3,204	3,114	3,114	3,114	3,892	3,875	4,000	4,041	5,000	5,301	5,114	5,079
B	<1,00	<1,00	<1,00	<1,00	2,633	2,602	2,929	2,929	3,398	3,556	3,322	2,959	4,447	4,114	4,176	4,000
C	<1,00	<1,00	<1,00	<1,00	2,845	2,613	3,301	3,204	3,898	3,792	4,079	4,041	4,996	5,079	5,146	5,176
D	<1,00	<1,00	<1,00	<1,00	3,000	2,973	3,146	3,176	4,079	3,959	4,114	4,079	5,114	5,176	5,146	5,279
E	<1,00	<1,00	<1,00	<1,00	3,398	3,845	2,968	3,079	4,176	4,041	3,914	3,875	5,519	5,041	4,929	4,944
F	<1,00	<1,00	<1,00	<1,00	3,079	3,613	3,176	2,826	3,820	3,973	3,833	3,813	4,929	5,114	4,929	4,869
G	<1,00	<1,00	<1,00	<1,00	3,041	2,968	3,146	3,079	4,041	4,255	3,869	4,041	5,431	5,000	5,146	4,908
I	<1,00	<1,00	<1,00	<1,00	3,176	3,176	3,204	3,176	4,041	3,978	3,892	4,041	5,079	5,176	5,000	5,114
J	<1,00	<1,00	<1,00	<1,00	2,857	2,863	3,114	3,230	3,799	3,740	3,982	3,929	4,869	4,886	4,881	4,929
K	<1,00	<1,00	<1,00	<1,00	2,724	2,415	2,826	2,833	3,851	3,845	3,875	3,851	5,041	4,914	4,944	5,146
M	<1,00	<1,00	<1,00	<1,00	3,176	3,041	3,176	3,301	4,322	4,176	4,000	4,079	5,362	5,633	5,176	5,255
N	<1,00	<1,00	<1,00	<1,00	3,079	2,959	3,255	3,255	4,176	3,954	4,146	4,342	4,940	5,114	5,176	5,146
O	<1,00	<1,00	<1,00	<1,00	3,114	3,146	3,079	3,279	4,079	4,176	4,114	4,114	5,362	5,041	5,079	5,114
P	<1,00	<1,00	<1,00	<1,00	2,968	3,041	3,146	3,255	4,041	4,041	3,903	4,041	5,176	5,176	5,322	5,114

Table 13 - Summary of the results obtained by the alternative method and the ISO XP/TS 11059 reference method (CFU/g)

Laboratories	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method	
A	<10	<10	<10	<10	1300	1700	1300	1300	8100	12000	10000	11000	110000	100000	130000	120000
B	<10	<10	<10	<10	910	750	850	850	1900	1600	2100	910	6300	13000	15000	10000
C	<10	<10	<10	<10	1300	1700	2000	1600	11000	9500	12000	11000	120000	120000	140000	150000
D	<10	<10	<10	<10	1100	1200	1400	1500	9200	9600	13000	12000	110000	180000	140000	190000
E	<10	<10	<10	<10	1300	1200	930	1200	7500	7200	8200	7500	75000	110000	85000	88000
F	<10	<10	<10	<10	1200	960	1500	670	8000	9100	6800	6500	69000	110000	85000	74000
G	<10	<10	<10	<10	1300	1100	1400	1200	7300	14000	7400	11000	90000	90000	140000	81000
I	<10	<10	<10	<10	1300	1300	1600	1500	6100	12000	7800	11000	110000	110000	100000	130000
J	<10	<10	<10	<10	1500	1200	1300	1700	10000	6700	9600	8500	110000	80000	76000	85000
K	<10	<10	<10	<10	570	520	670	680	6500	4400	7500	7100	65000	64000	88000	140000
M	<10	<10	<10	<10	1200	1100	1500	2000	11000	11000	10000	12000	140000	240000	150000	180000
N	<10	<10	<10	<10	1400	1700	1800	1800	15000	13000	14000	22000	140000	98000	150000	140000
O	<10	<10	<10	<10	1200	1500	1200	1900	12000	12000	13000	13000	220000	130000	120000	130000
P	<10	<10	<10	<10	1200	1400	1400	1800	13000	13000	8000	11000	300000	140000	210000	130000

Table 14 - Summary of the results obtained by the alternative method and the ISO XP/TS 11059 reference method (log CFU/g)

Laboratories	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method		Reference method		Alternative method	
A	<1,00	<1,60	<1,00	<1,00	3,114	3,230	3,114	3,114	3,908	4,079	4,000	4,041	5,041	5,000	5,114	5,079
B	<1,00	<1,00	<1,00	<1,00	2,959	2,875	2,929	2,929	3,279	3,204	3,322	2,959	3,799	4,114	4,176	4,000
C	<1,00	<1,00	<1,00	<1,00	3,114	3,230	3,301	3,204	4,041	3,978	4,079	4,041	5,079	5,079	5,146	5,176
D	<1,00	<1,00	<1,00	<1,00	3,041	3,079	3,146	3,176	3,964	3,982	4,114	4,079	5,041	5,255	5,146	5,279
E	<1,00	<1,00	<1,00	<1,00	3,114	3,079	2,968	3,079	3,875	3,857	3,914	3,875	4,875	5,041	4,929	4,944
F	<1,00	<1,00	<1,00	<1,00	3,079	2,982	3,176	2,826	3,903	3,959	3,833	3,813	4,839	5,041	4,929	4,869
G	<1,00	<1,00	<1,00	<1,00	3,114	3,041	3,146	3,079	3,863	4,146	3,869	4,041	4,954	4,954	5,146	4,908
I	<1,00	<1,00	<1,00	<1,00	3,114	3,114	3,204	3,176	3,785	4,079	3,892	4,041	5,041	5,041	5,000	5,114
J	<1,00	<1,00	<1,00	<1,00	3,176	3,079	3,114	3,230	4,000	3,826	3,982	3,929	5,041	4,903	4,881	4,929
K	<1,00	<1,00	<1,00	<1,00	2,756	2,716	2,826	2,833	3,813	3,643	3,875	3,851	4,813	4,806	4,944	5,146
M	<1,00	<1,00	<1,00	<1,00	3,079	3,041	3,176	3,301	4,041	4,041	4,000	4,079	5,146	5,380	5,176	5,255
N	<1,00	<1,00	<1,00	<1,00	3,146	3,230	3,255	3,255	4,176	4,114	4,146	4,342	5,146	4,991	5,176	5,146
O	<1,00	<1,00	<1,00	<1,00	3,079	3,176	3,079	3,279	4,079	4,079	4,114	4,114	5,342	5,114	5,079	5,114
P	<1,00	<1,00	<1,00	<1,00	3,079	3,146	3,146	3,255	4,114	4,114	3,903	4,041	5,477	5,146	5,322	5,114

3.3.4 Calculation and interpretation

3.3.4.1 Visual linearity checking

This evaluation was performed using 14 datasets.

Figures 6 and 7 illustrate the data points after logarithmic transformation. At this stage, visual evaluation shows that the alternative method yields proportional results to those of the reference method. Furthermore, the data are distributed closely around the first bisector having a gradient equal to 1 and they confirm this result. The medians of the measurements obtained with the reference method for each level are also represented on the figure (vertical lines).

Figure 6 – Visual control of linearity - ISO 13720 Method

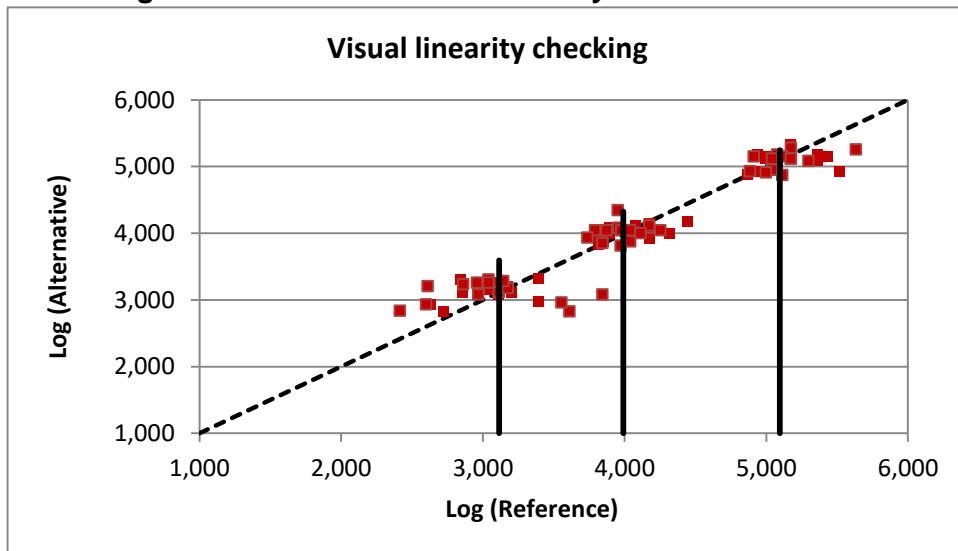
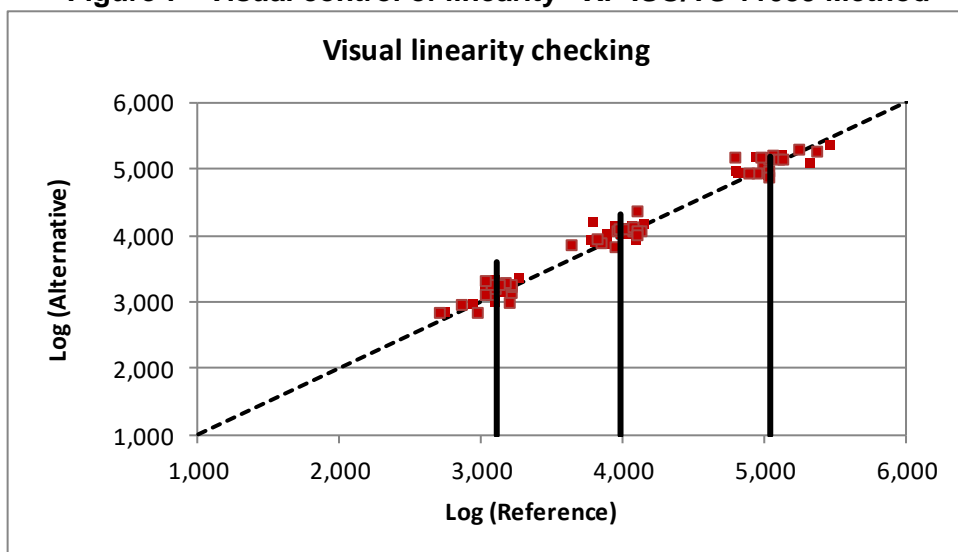


Figure 7 - Visual control of linearity - XP ISO/TS 11059 Method



3.3.4.2 Accuracy profile calculation

The statistical calculations were performed using the Excel spreadsheet available on <http://standards.iso.org/ISO/16140>. A summary of the results is shown in **Table 15** and **16** for the interpretation with 14 collaborators.

Table 15 – Interpretation with ISO 13720 method

Accuracy profile						
Study Name	RHAPSODY					
Date	March 2015					
Coordinator	ADRIA Développement			FAUX		
Tolerance probability (beta)	80%	80%	80%			
Acceptability limit in log (lambda)	0,50	0,50	0,50			
<p>Application of clause 6.2.3 Step 8: If any of the values for the β-ETI fall outside the acceptability limits, calculate the pooled average reproducibility standard deviation of the reference method. Step 9: Calculate new acceptability limits as a function of this standard deviation.</p>						
Alternative method				Reference method		
Levels	Low	Medium	High	Low	Medium	High
Target value	3,024	3,964	5,073			
Number of participants (K)	14	14	14	14	14	14
Average for alternative method	3,119	3,939	5,009	3,024	3,964	5,073
Repeatability standard deviation (sr)	0,091	0,096	0,088	0,157	0,090	0,179
Between-labs standard deviation (sL)	0,111	0,245	0,280	0,255	0,185	0,242
Reproducibility standard deviation (sR)	0,143	0,263	0,294	0,300	0,206	0,300
Corrected number of dof	19,231	14,843	14,234	17,05		
Coverage factor	1,365	1,385	1,389	1	15,722	18,392
Interpolated Student t	1,327	1,341	1,344			
Tolerance interval standard deviation	0,1474	0,2719	0,3034			
Lower TI limit	2,923	3,574	4,601			
Upper TI limit	3,314	4,304	5,416			
Bias	0,095	-0,024	-0,064			
Relative Lower TI limit (beta = 80%)	-0,101	-0,389	-0,472			
Relative Upper TI limit (beta = 80%)	0,290	0,340	0,344			
Lower Acceptability Limit	-0,50	-0,50	-0,50			
Upper Acceptability Limit	0,50	0,50	0,50			
New acceptability limits may be based on reference method pooled variance						
Pooled repro standard dev of reference	0,272					

Table 16 – Interpretation with ISO XP/TS 11059 method

Accuracy profile						
Study Name	RHAPSODY			<div style="border: 1px solid black; padding: 5px;"> Application of clause 6.2.3 Step 8: If any of the values for the β-ETI fall outside the acceptability limits, calculate the pooled average reproducibility standard deviation of the reference method. Step 9: Calculate new acceptability limits as a function of this standard deviation. </div>		
Date	March 2015					
Coordinator	ADRIA Développement					
Tolerance probability (beta)	80%	80%	80%			
Acceptability limit in log (lambda)	0,50	0,50	0,50	FAUX		
	Alternative method			Reference method		
Levels	Low	Medium	High	Low	Medium	High
Target value	3,071	3,927	4,982			
Number of participants (K)	14	14	14	14	14	14
Average for alternative method	3,119	3,939	5,009	3,071	3,927	4,982
Repeatability standard deviation (sr)	0,091	0,096	0,088	0,055	0,099	0,130
Between-labs standard deviation (sL)	0,111	0,245	0,280	0,112	0,213	0,313
Reproducibility standard deviation (sR)	0,143	0,263	0,294	0,125	0,234	0,339
Corrected number of dof	19,231	14,843	14,234	15,784	15,504	15,067
Coverage factor	1,365	1,385	1,389			
Interpolated Student t	1,327	1,341	1,344			
Tolerance interval standard deviation	0,1474	0,2719	0,3034			
Lower TI limit	2,923	3,574	4,601			
Upper TI limit	3,314	4,304	5,416			
Bias	0,048	0,012	0,026			
Relative Lower TI limit (beta = 80%)	-0,148	-0,352	-0,381	FAUX		
Relative Upper TI limit (beta = 80%)	0,243	0,377	0,434	FAUX		
Lower Acceptability Limit	-0,50	-0,50	-0,50			
Upper Acceptability Limit	0,50	0,50	0,50			
New acceptability limits may be based on reference method pooled variance						
Pooled repro standard dev of reference	0,249					

A summary of the values obtained is shown in **Table 17**.

Table 17 – Summary of the values obtained (log CFU/g)

	ISO 13720			ISO XP/TS 11059		
	Low level	Intermediate level	High level	Low level	Intermediate level	High level
Target value	3,024	3,964	5,073	3,071	3,927	4,982
Bias	0,095	- 0,024	- 0,064	0,048	0,012	0,026
Low β .ETI (80%)	- 0,101	- 0,389	- 0,472	- 0,148	- 0,352	- 0,381
High β .ETI (80%)	0,290	0,340	0,344	0,243	0,377	0,434
Low AL	- 0,50					
High AL	0,50					

These values are collected in a graphical representation together with the acceptability limits (AL). This representation is given **Figures 8 et 9** for the interpretation with 14 laboratories.

Figure 8 – Accuracy profile - ISO 13720 Method

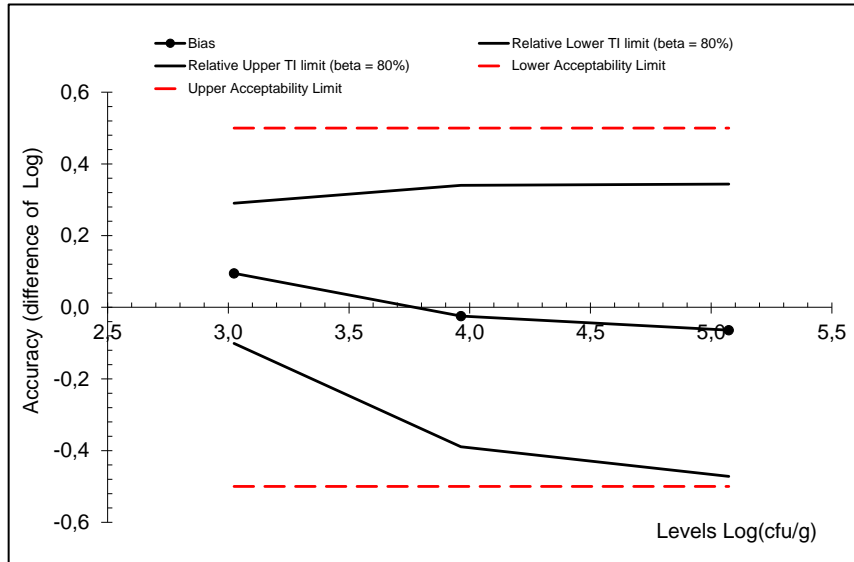
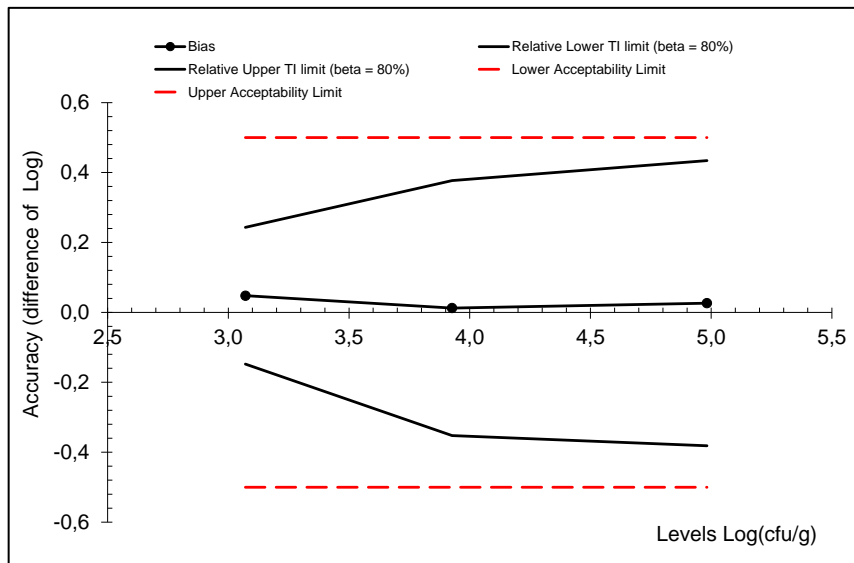


Figure 9 – Accuracy profile - XP ISO/TS 11059 Method



The alternative method is considered equivalent to the reference method as the β .ETI values are within the acceptability limits for all contamination levels whatever the reference method (NF EN ISO 13720 or XP ISO/TS 11059).

3.3.4.3 Conclusion

The alternative method is accepted as equivalent to the 2 tested reference methods whatever the inoculation level.

3.4 Conclusion

The **conclusions of the method comparison study** are the following:

- The data observed, together with the results of the statistical interpretations confirm the performances of the RHAPSODY Agar alternative method.
- The relative accuracy of the RHAPSODY Agar method is satisfactory.
- Accuracy profiles are between the acceptability limits for all matrices tested. The results observed are satisfactory.

- Results are available at day 2 for the alternative method whatever the matrix tested, while 2 days (ISO 13720) or 4 days (XP ISO/TS 11059) are required to have the number of *Pseudomonas* spp. confirmed by the reference method.

The **conclusions of the interlaboratory study** are the following:

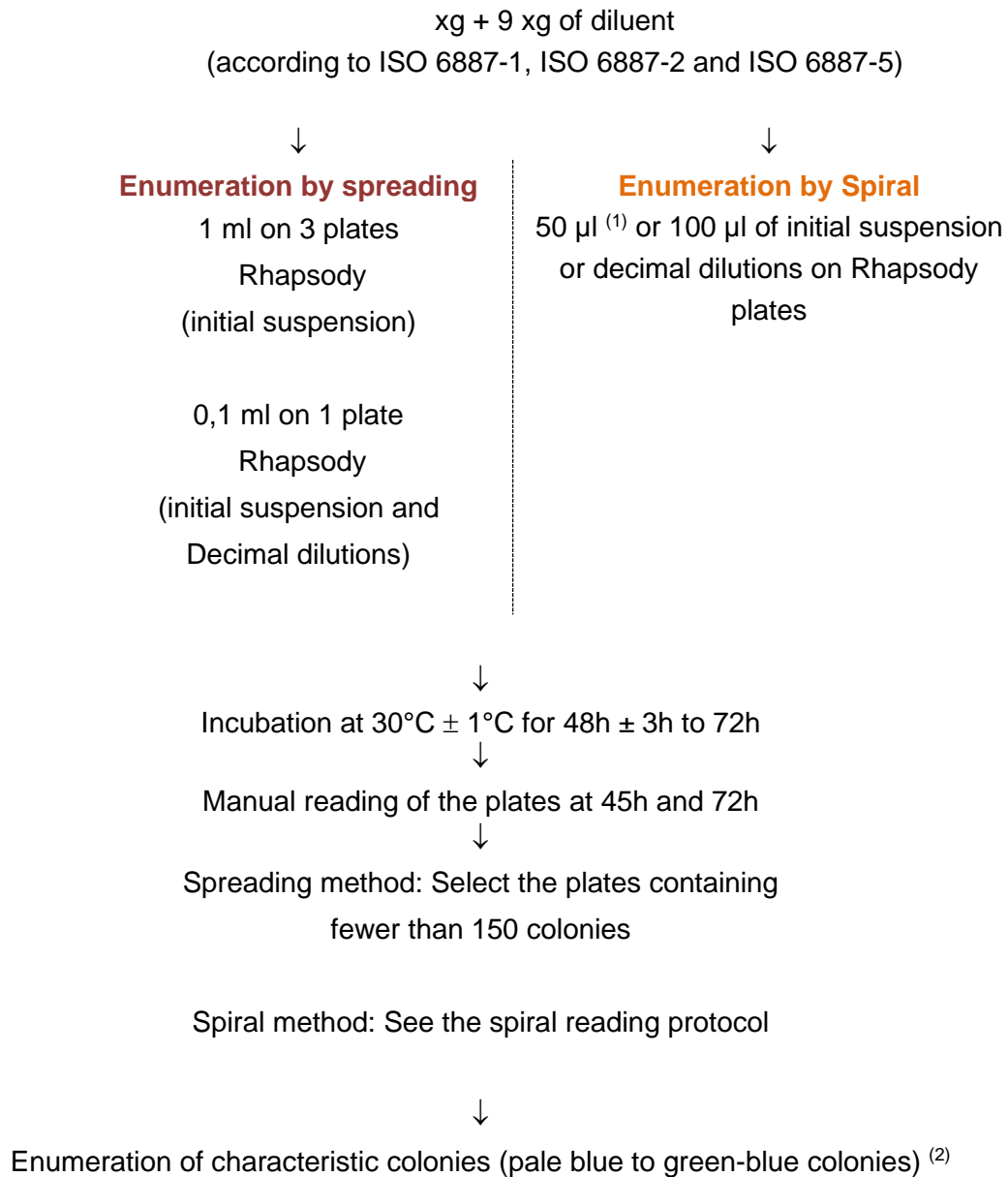
- The data and interpretation meet the requirements of ISO 16140-2:2016. The RHAPSODY Agar method is considered as equivalent as the two references method.

Quimper, 20 April 2023

Maryse RANNOU 
Project Manager
Validation of Alternative methods

I hereby attest to the validation of the verification of the conformity of the report (opinion and interpretation).

Appendix 1 – Protocol of the alternative method: RHAPSODY Agar®

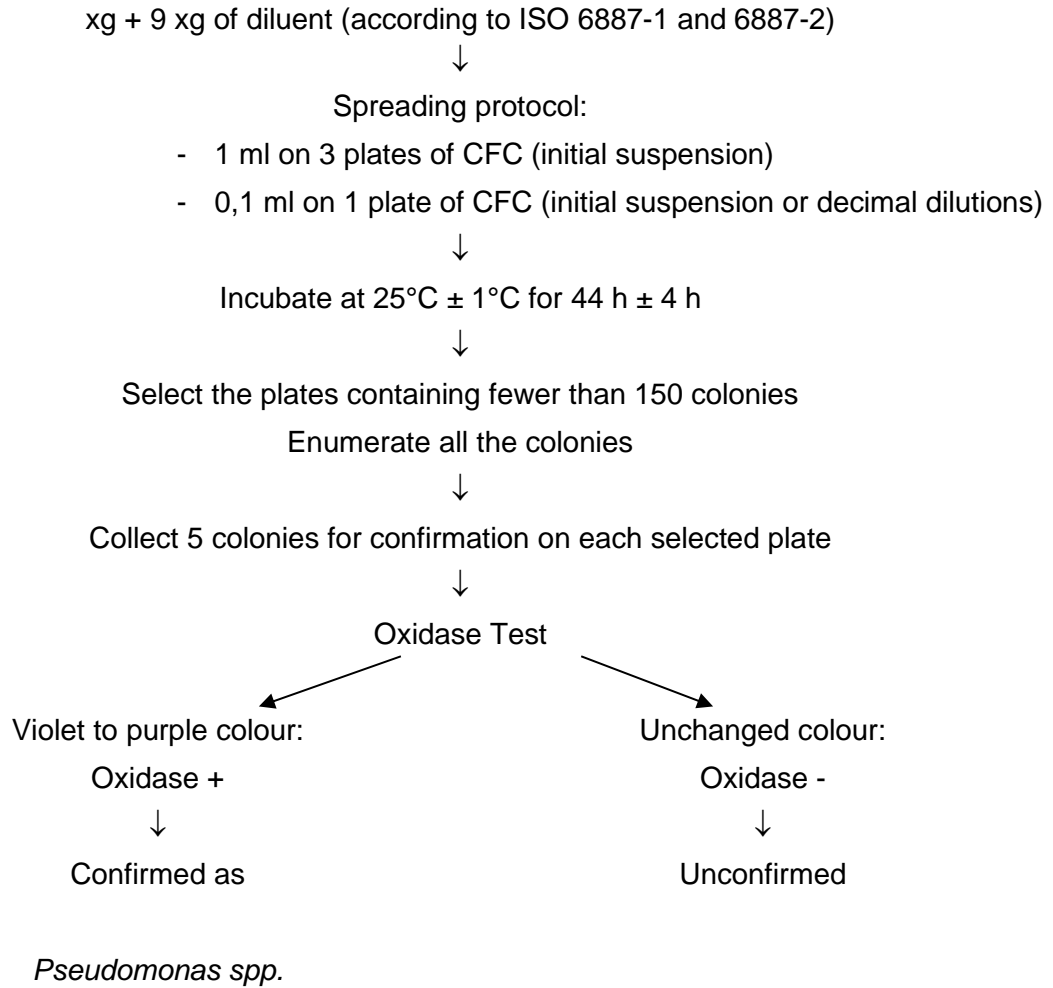


(1): volume tested for the validation study

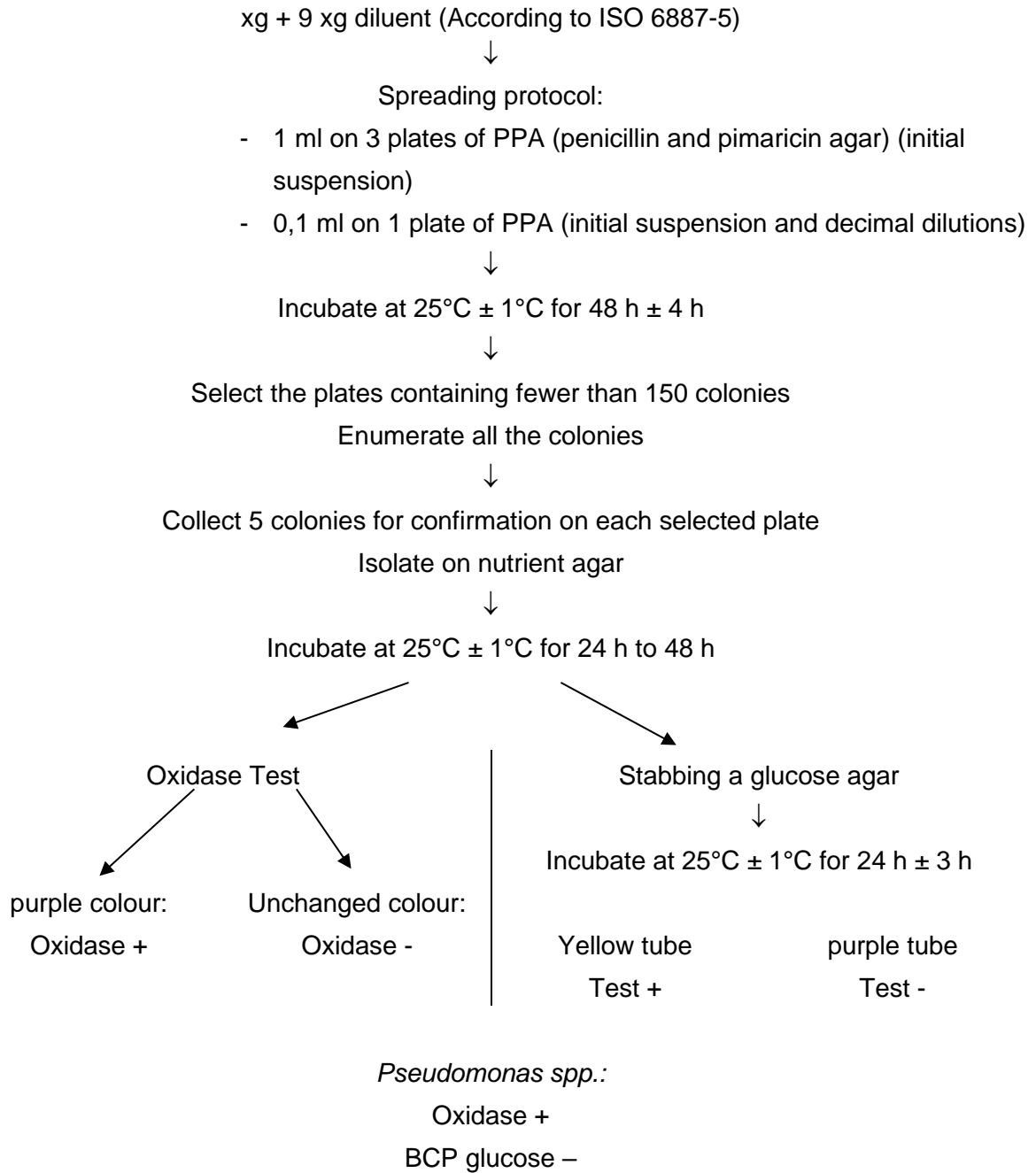
(2): As part of the validation study, the oxidase test and the BCP glucose were performed on a typical colony per plate retained.

Appendix 2 – Protocols of the reference methods

Reference method NF EN ISO 13720 (November 2010):
Meat and meat products
Enumeration of presumptive *Pseudomonas spp.*



Reference method XP ISO/TS 11059 (October 2009):
Milk and milk products
Enumeration of *Pseudomonas spp.*



Appendix 3 – Artificial contamination of the samples

Year	Sample number	Product	Artificial contamination				Category	Type
			Strain	Origin	Applied stress	Injury measurement/sample		
2015	4451	Pasteurised cream	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C	1,05	2	a
2015	4452	Pasteurised milk butter	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C	1,05	2	a
2015	4453	Mozzarella	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C	1,05	2	a
2015	4454	Mozzarella	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C	1,05	2	a
2015	4557	Mozzarella	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C / 5 days at 4°C	1,76	2	a
2015	4558	Mozzarella	<i>Pseudomonas</i> spp Ad1522	Dairy product	HT 5 min 56°C / 5 days at 4°C	0,92	2	a
2015	4559	Pasteurised half-skimmed milk	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C / 5 days at 4°C	1,76	2	a
2015	4560	Pasteurised whole milk	<i>Pseudomonas</i> spp Ad1522	Dairy product	HT 5 min 56°C / 5 days at 4°C	0,92	2	a
2015	4561	Goat's cheese with pasteurised milk	<i>Pseudomonas</i> spp Ad1522	Dairy product	HT 5 min 56°C / 5 days at 4°C	0,92	2	a
2015	4555	Raw milk semi-salted butter	<i>Pseudomonas aeruginosa</i> 20	Raw milk	HT 5 min 56°C / 5 days at 4°C	1,76	2	b
2015	4556	Raw milk semi-salted butter	<i>Pseudomonas</i> spp Ad1522	Dairy product	HT 5 min 56°C / 5 days at 4°C	0,92	2	b

HT: heat treatment

Appendix 4 – Relative trueness study: raw results (initial validation - 2015 and renewal study - 2019)

MEAT PRODUCTS																								Type		
Sample	Product	Product (in French)	Reference method: ISO 13720*								Alternative method: RHAPSODY Agar - Spreading															
			Dilution	Before confirmation		After confirmation		log CFU/g		Dilution	Reading 45h				Reading 72h											
				CFU/plate		CFU/plate		CFU/g			CFU/plate (45H)		Confirmation (oxidase) Rep1/Rep2	CFU/g		log CFU/g		CFU/plate		CFU/g		log CFU/g				
Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2					
3938	Plain bacon	Lardons nature	10	0	0	0	0	<10	<10	<1,00	<1,00	10	1	0	+/	10	<10	1,00*	<1,00	1	0	10	<10	1,00*	<1,00	c
			100	0	0	0	0						100	0	0	/					0	0				
3939	Chipolatas	Chipolatas	10000	67	47	67	47	640000	460000	5,81	5,66	10000	32	36	+/+	330000	350000	5,52	5,54	32	39	330000	380000	5,52	5,58	c
			100000	3	4	3	4						100000	4	3	+/+					4	3				
3940	Pork chop	Côte de porc	10000	>150	>150	/	/	3400000	2400000	6,53	6,38	10000	109	95	+/+	1100000	950000	6,04	5,98	134	113	1400000	1100000	6,15	6,04	a
			100000	34	24	34	24						100000	14	9	+/+					17	11				
3941	Turkey escalope	Escalope de dinde	10000	27	31	27	31	290000	300000	5,46	5,48	10000	24	19	+/+	250000	190000	5,40	5,28	28	26	310000	260000	5,49	5,41	b
			100000	5	2	5	2						100000	3	2	+/+					6	3				
3942	Rump steak	Rumsteck	10000	>150	>150	/	/	2300000	3000000	6,36	6,48	10000	>150	>150	/	2000000	1800000	6,30	6,26	>150	>150	2500000	2500000	6,40	6,40	a
			100000	23	30	23	30						100000	20	18	+/+					25	25				
4066	Sliced leg of lamb	Tranche de gigot d'agneau	1000	7	4	5	4	7000	4000	3,85	3,60	1000	8	11	+/+	7300	10000	3,86	4,00	8	11	7300	10000	3,86	4,00	a
			10000	1	0	1	0						10000	0	0	/					0	0				
4067	Salted pork belly	Poitrine de porc salée	10	34	25	34	15	320	150	2,51	2,18	10	0	0	+/+(72h)	<10	<10	<1,00	<1,00	11	11	120	100	2,08	2,00	c
			100	6	6	1	1						100	0	0	/					2	0				
4068	Parsley head pâté	Pâté de tête persillé	10	27	29	27	29	290	300	2,46	2,48	10	12	17	+/+	110	160	2,04	2,20	14	17	130	170	2,11	2,23	c
			100	5	4	5	4						100	0	0	/					0	2				
4069	Pork snout with tongue	Museau de porc avec langue	100	73	84	0	0	<100	<100	<2,00	<2,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	c
			1000	9	4	0	0						100	0	0	/					0	0				
4070	Cooked ham	Jambon cuit	10	1	3	1	3	20	20	1,30*	1,30*	10	4	5	+/+	40	50	1,60	1,70	4	5	40	50	1,60	1,70	c
			100	0	0	0	0						100	1	0	+/			Ne	Ne	1	0			Ne	Ne
4244	Salami	Salami	10	0	1	0	1	5	5	0,70*	0,70*	10	1	0	+/	10	<10	1,00*	<1,00	2	0	20	<10	1,30*	<1,00	c
			100	0	0	0	0						100	0	0	/					0	0				
4245	Sausage	Saucisson	10	5	0	5	0	50	50	1,70	1,70	10	0	0	/	<10	<10	<1,00	<1,00	0	1	<10	<10	<1,00	<1,00	c
			100	0	0	0	0						100	0	0	/					0	0				
4246	Rolled breast	Poitrine roulée	1000	103	94	103	94	100000	91000	5,00	4,96	1000	72	84	+/+	73000	84000	4,86	4,92	84	88	85000	89000	4,93	4,95	c
			10000	10	6	10	6						10000	8	8	+/+					9	10				
4247	Raw chicken leg	Cuisse de poulet crue	1000	48	54	48	54	46000	55000	4,66	4,74	1000	90	63	+/+	85000	62000	4,93	4,79	94	68	91000	66000	4,96	4,82	b
			10000	3	7	3	7						10000	3	5	+/+					6	5				
4248	Quail	Caille	100000	3	1	3	1	200000	200000	5,30*	5,30*	100000	2	2	+/+	200000	200000	5,30*	5,30*	2	2	<400000	<400000	<5,60	<5,60	b
			1000000	0	0	0	0						1000000	0	0	/					0	0				
4439	Frozen minced steak	Steak haché surgelé	10	42	58	42	58	420	560	2,62	2,75	10	18	38	+/+	190	380	2,28	2,58	32	43	330	440	2,52	2,64	a
			100	4	3	4	3						100	3	4	+/+					4	5				
4440	Frozen beef fillet tournedos	Tournedos de filet de bœuf surgelé	10	>450	>450	/	/	7900	8100	3,90	3,91	10	266	299	+/+	2800	3100	3,45	3,49	345	439	3600	4500	3,56	3,65	a
			100	79	81	79	81						100	44	45	+/+					51	56				
4441	Frozen sirloin steak	Bavette d'aloyau surgelée	10	23	23	23	23	230	230	2,36	2,36	10	12	11	+/+	130	100	2,11	2,00	18	15	210	160	2,32	2,20	a
			100	2	2	2	2						100	2	0	+/					5	2				
4442	Frozen veal escalope	Escalope de veau surgelée	10	27	48	27	48	260	480	2,41	2,68	10	11	24	+/+	100	230	2,00	2,36	14	29	140	280	2,15	2,45	a
			100	2	5	2	5						100	0	1	/+					1	2				
4443	Frozen filet mignon	Filet mignon surgelé	1000	48	47	48	47	51000	46000	4,71	4,66	1000	22	28	+/+	20000	27000	4,30	4,43	48	37	45000	35000	4,65	4,54	a
			10000	8	4	8	4						10000	0	2	/+					1	2				
4444	Frozen turkey	Sauté de dinde surgelé	10	>450	>450	/	/	4700	6600	3,67	3,82	10	>450	>450	/	4600	48000	3,66	4,68	>450	>450	4800	4900	3,68	3,69	b
			100	47	66	47	66						100	46	48	+/+					48	49				

* Analyses performed according to the COFRAC accreditation
 ADRIA Développement
 Summary report (Version 0)
 RHAPSODY Agar

MEAT PRODUCTS																									Type	
Sample	Product	Product (in French)	Reference method: ISO 13720*										Alternative method: RHAPSODY Agar - Spreading													
			Dilution	Before confirmation		After confirmation				log CFU/g		Dilution	Reading 45h					Reading 72h								
				CFU/plate		CFU/plate		CFU/g					CFU/plate (45H)		Confirmation (oxidase) Rep1/Rep2	CFU/g		log CFU/g		CFU/plate		CFU/g		log CFU/g		
Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2			
4445	Chicken	Poule	10000	153	119	153	119	1500000	1200000	6,18	6,08	100000	17	122(-4)	+/+	1500000	1200000	6,18	6,08	18	143(-4)	1800000	1400000	6,26	6,15	b
			100000	13	17	13	17					1000000	0	9(-5)	/+					2	11(-5)					
4446	Duck leg	Cuisse de canard	100000	>150	>150	>150	>150	2100000000	2100000000	8,32	8,32	100000	>150	>150	/	1700000000	1400000000	8,23	8,15	>150	>150	1900000000	1500000000	8,28	8,18	b
			1000000	21 (-7)	144	208	144					1000000000	17 (-7)	144	+/+					N'	N'	19(-7)	151			
4447	Coppa	Coppa	10	Unreadable (spread colonies)		/	/	3900	2000	3,59	3,30	10	92	91	+/+	920	990	2,96	3,00	113	103	1100	1100	3,04	3,04	c
			100	39	20	39	20					N'	N'	100	9	18	+/+					9	18			
4448	White ham	Jambon blanc	10	Unreadable (spread colonies)		/	/	4400	3400	3,64	3,53	10	>450	>450	/	3300	2900	3,52	3,46	>450	>450	3300	2900	3,52	3,46	c
			100	44	34	44	34					N'	N'	100	33	29	+/+					33	29			
4449	Pâté	Pâté	10	>450	>450	>450	>450	12000	12000	4,08	4,08	10	>150	>450	/	7900	8000	3,90	3,90	>450	>450	8400	8500	3,92	3,93	c
			100	118	116	118	116					N'	N'	100	79	80	+/+					84	85			

MEAT PRODUCTS																											
Sample.	Product	Product (in French)	Reference method: ISO 13720*									Alternative method: RHAPSODY Agar - Spiral															Type
			Dilution	Before confirmation		After confirmation				log CFU/g		Dilution	Reading area	Reading 45h						Reading 72h							
				CFU/plate		CFU/plate		CFU/g		Rep1, Rep2				CFU/plate		log CFU/g		CFU/plate		CFU/g		log CFU/g					
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2			Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2		
3938	Plain bacon	Lardons nature	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	1	0	200	<200	2,30*	<2,30	c
			100	0	0	0	0																				
3939	Chipolatas	Chipolatas	10000	67	47	67	47	640000	460000	5,81	5,66	10	2	75	76	+/+	300000	300000	5,48	5,48	84	79	330000	310000	5,52	5,49	c
			100000	3	4	3	4																				
3940	Pork chop	Côte de porc	10000	>150	>150	/	/	3400000	2400000	6,53	6,38	1000	st	57	59	+/+	1100000	1200000	6,04	6,08	57	59	1100000	1200000	6,04	6,08	a
			100000	34	24	34	24			N'	N'																
3941	Turkey escalope	Escalope de dinde	10000	27	31	27	31	290000	300000	5,46	5,48	10	2	52	46	+/+	200000	180000	5,30	5,26	59	53	230000	210000	5,36	5,32	b
			100000	5	2	5	2																				
3942	Rump steak	Rumsteck	10000	>150	>150	/	/	2300000	3000000	6,36	6,48	1000	st	136	143	+/+	2700000	2900000	6,43	6,46	138	144	2800000	2900000	6,45	6,46	a
			100000	23	30	23	30			N'	N'																
4066	Sliced leg of lamb	Tranche de gigot d'agneau	1000	7	4	5	4	7000	4000	3,85	3,60	10	st	30	29	+/+	6000	5800	3,78	3,76	30	33	6000	6600	3,78	3,82	a
			10000	1	0	1	0			Ne	Ne																
4067	Salted pork belly	Poitrine de porc salée	10	34	25	34	15	320	150	2,51	2,18	10	st	1	1	+/+	200	200	2,30*	2,30*	1	1	200	200	2,30*	2,30*	c
			100	6	6	1	1																				
4068	Parsley head pâté	Pâté de tête persillé	10	27	29	27	29	290	300	2,46	2,48	10	st	2	2	+/+	400	400	2,60*	2,60*	2	2	400	400	2,60*	2,60*	c
			100	5	4	5	4																				
4069	Pork snout with tongue	Museau de porc avec langue	100	73	84	0	0	<100	<100	<2,00	<2,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	c
			1000	9	4	0	0																				
4070	Cooked ham	Jambon cuit	10	1	3	1	3	20	20	1,30*	1,30*	10	st	0	0	/	<200	<200	<2,30	<2,30	1	0	200	<200	2,30*	<2,30	c
			100	0	0	0	0																				
4244	Salami	Salami	10	0	1	0	1	5	5	0,70*	0,70*	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	c
			100	0	0	0	0																				
4245	Sausage	Saucisson	10	5	0	5	0	50	50	1,70	1,70	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	c
			100	0	0	0	0			Ne	Ne																
4246	Rolled breast	Poitrine roulée	1000	103	94	103	94	100000	91000	5,00	4,96	10	3	70	43	+/+	140000	85000	5,15	4,93	63	44	120000	87000	5,08	4,94	c
			10000	10	6	10	6																				
4247	Raw chicken leg	Cuisse de poulet crue	1000	48	54	48	54	46000	55000	4,66	4,74	10	6	126	133	+/+	50000	53000	4,70	4,72	78	94	51000	62000	4,71	4,79	b
			10000	3	7	3	7														zone 5	zone 5					
4248	Quail	Caille	100000	3	1	3	1	200000	200000	5,30*	5,30*	100	st	34	24	+/+	48000	48000	4,68	4,68	34	25	68000	50000	4,83	4,70	b
			1000000	0	0	0	0																				
4439	Frozen minced steak	Steak haché surgelé	10	42	58	42	58	420	560	2,62	2,75	10	st	1	0	+/-	200	<200	<2,90	<2,30	2	0	<800 (400)	<200	2,60*	<2,30	a
			100	4	3	4	3																				
4440	Frozen beef fillet tournedos	Tournedos de filet de bœuf surgelé	10	>450	>450	/	/	7900	8100	3,90	3,91	10	st	16	21	+/+	3200	4200	3,51	3,62	20	25	4000	5000	3,60	3,70	a
			100	79	81	79	81																				
4441	Frozen sirloin steak	Bavette d'aloyau surgelée	10	23	23	23	23	230	230	2,36	2,36	10	st	1	0	+/-	200	<200	2,30*	<2,30	3	0	600	<200	2,78*	<2,30	a
			100	2	2	2	2																				
4442	Frozen veal escalope	Escalope de veau surgelée	10	27	48	27	48	260	480	2,41	2,68	10	st	1	0	+/-	200	<200	2,30*	<2,30	1	2	200	400	2,30*	2,60*	a
			100	2	5	2	5																				
4443	Frozen filet mignon	Filet mignon surgelé	1000	48	47	48	47	51000	46000	4,71	4,66	10	6	91	63	+/+	36000	25000	4,56	4,40	84	90	34000	36000	4,53	4,56	a
			10000	8	4	8	4																				
4444	Frozen turkey	Sauté de dinde surgelé	10	>450	>450	/	/	4700	6600	3,67	3,82	10	st	29	27	+/+	5800	5400	3,76	3,73	32	31	6400	6200	3,81	3,79	b
			100	47	66	47	66																				
4445	Chicken	Poule	10000	153	119	153	119	1500000	1200000	6,18	6,08	1000	st	77	76	+/+	1500000	1500000	6,18	6,18	82	81	3300000	3200000	6,52	6,51	b
			100000	13	17	13	17																				

MEAT PRODUCTS																											
Sample.	Product	Product (in French)	Reference method: ISO 13720*										Alternative method: RHAPSODY Agar - Spiral														
			Dilution	Before confirmation		After confirmation				log CFU/g		Dilution	Reading area	Reading 45h					Reading 72h								
				CFU/plate		CFU/plate		CFU/g		Rep1	Rep2			Rep1	Rep2	Confirmation (ox;BCP) Rep1/Rep2	CFU/plate		log CFU/g		CFU/plate		CFU/g		log CFU/g		
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2								Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1
4446	Duck leg	Cuisse de canard	100000	>150	>150	>150	>150	2100000000	2100000000	8,32	8,32	1000	1	130	122	+/+	1300000000	1200000000	8,11	8,08	133	135	1300000000	1400000000	8,11	8,15	b
			1000000	21 (-7)	144	208	144			N'	N'																
4447	Coppa	Coppa	10	Unreadable (spread colonies)		/	/	3900	2000	3,59	3,30	10	st	4	4	+/+	800	800	2,90	2,90	4	4	800	800	2,90	2,90	c
			100	39	20	39	20			N'	N'																
4448	White ham	Jambon blanc	10	Unreadable (spread colonies)		/	/	4400	3400	3,64	3,53	10	st	24	19	+/+	9600	3800	3,98	3,58	24	20	9600	8000	3,98	3,90	c
			100	44	34	44	34			N'	N'																
4449	Pâté	Pâté	10	>450	>450	>450	>450	12000	12000	4,08	4,08	10	st	77	53	+/+	30000	21000	4,48	4,32	79	55	31000	22000	4,49	4,34	c
			100	118	116	118	116			N'	N'																

DAIRY PRODUCTS																									Type	
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*								Alternative method: RHAPSODY Agar – Spreading method															
			Dilution	Before confirmation		After confirmation		log cfu/g		Dilution	Reading 45h				Reading 72h											
				cfu/plate		cfu/plate		cfu/g			cfu/plate (45H)		Confirmation (ox;BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g				
Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1		Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2				
3943	Raw milk cheese (Morbier)	Morbier au lait cru	100	35	34	0	0	<100	<100	<2,00	<2,00	10	1	0	+/-	10	<10	1,00*	<1,00	1	0	10	<10	1,00*	<1,00	b
			1000	3	3	0	0					100	0	0	/					0	0					
3944	Raw cream	Crème crue	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	b
			100	0	0	0	0					100	0	0	/					0	0					
3945	Mozzarella	Mozzarella	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	a
			100	0	0	0	0					100	0	0	/					0	0					
3946	Pasteurised half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	a
			100	0	0	0	0					100	0	0	/					0	0					
3947	Raw milk	Lait cru	10000	27	33	27	33	250000	310000	5,40	5,49	10000	17	28	+/+	150000	250000	5,18	5,40	17	28	150000	250000	5,18	5,41	b
			100000	1	1	1	1					100000	0	0	/					0	0					
4071	Cheese (Saint-Nectaire)	Saint nectaire fermier	1000	>150	>150	0	0	<1000	<1000	<3,00	<3,00	100	37	33	+/+	3900	3400	3,59	3,53	37	33	3900	3400	3,59	3,53	b
			10000	>150	>150	0	0					1000	6	4	+/+					6	4					
4072	Cheese (Selles sur Cher)	Selles sur cher	10	6	6	6	6	60	60	1,78	1,78	10	4	4	+/+	40	40	1,60	1,60	4	4	40	40	1,60	1,60	b
			100	1	2	1	2					100	0	0	+/-			Ne	Ne	0	0			Ne	Ne	
4073	Raw milk	lait cru	10000	15	15	15	15	140000	150000	5,15	5,18	1000	52	33	+/+	49000	40000	4,69	4,60	52	33	49000	40000	4,69	4,60	b
			100000	0	2	0	2					10000	2	11	+/+					2	11					
4074	Pasteurized half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	a
			100	0	0	0	0					100	0	0	/					0	0					
4075	Pasteurized half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	a
			100	0	0	0	0					100	0	0	/					0	0					
4249	Rice with milk	Riz au lait	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	0	/	<10	<10	<1,00	<1,00	0	0	<10	<10	<1,00	<1,00	c
			100	0	0	0	0					100	0	0	/					0	0					
4250	Chantilly (black forest)	Chantilly (forêt noire)	10	188	198	188	198	1900	2000	3,28	3,30	10	/	/	+/+	800	1900	2,90	3,28	/	/	1100	2000	3,04	3,30	c
			100	24	19	24	19					100	8	19	+/+					11	20					
4379	Chantilly cream (cabbage whipped cream)	Chantilly (Chou chantilly)	100	>150	>150	/	/	54000	42000	4,73	4,62	100	>150	>150	/	47000	41000	4,67	4,61	>150	>150	47000	41000	4,67	4,61	c
			1000	54	42	54	42			N'	N'	1000	47	41	+/+			N'	N'	47	41					
4380	Tiramisu	Tiramisu	100000	89	89	89	89	8600000	9100000	6,93	6,96	100000	95	90	+/+	9700000	8500000	6,99	6,93	95	90	9700000	8500000	6,99	6,93	c
			1000000	6	11	6	11					1000000	12	3	+/+					12	4					
4381	Cheese (tome)	Tomme blanche	1000	74	66	30	40	32000	36000	4,51	4,56	1000	12	15	+/+	13000	14000	4,11	4,15	21	24	21000	23000	4,32	4,36	a
			10000	8	10	5	0					10000	2	0	+/-					2	1					
4382	Nougat ice cream	Crème glacée nougat	10	39	42	39	42	410	390	2,61	2,59	10	27	22	+/+	270	230	2,43	2,36	38	35	380	360	2,58	2,55	c
			100	7	2	6	1					100	3	3	+/+					4	4					
4383	Salted butter caramel ice cream	Crème glacée au caramel au beurre salé	10	33	33	13	26	150	260	2,18	2,41	10	13	9	+/+	120	90	2,08	1,95	28	14	260	150	2,41	2,16	c
			100	5	9	3	2					100	0	1	/+					Ne	0	2				
4384	Pasteurized half skimmed milk	Lait pasteurisé 1/2 écrémé	1000	25	40	25	40	26000	39000	4,41	4,59	1000	0 (42 white)	0 (25 white)	/	<1000	<1000	<3,00	<3,00	49	32	47000	30000	4,67	4,48	a
			10000	4	3	4	3					10000	0 (2 white)	0 (1 white)	/					3	1					
4385	Raw milk cottage cheese	Fromage blanc au lait cru entier	100	unreadable (moulds)		/	/	<1000	1500	<3,00	3,18*	10	3	6	+/+	30	60	1,48*	1,78	42	44	460	420	2,66	2,67	b
			1000	3	6	0	3					100	2	0	+/-					Ne	4	7				

DAIRY PRODUCTS																								Type		
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*								Alternative method: RHAPSODY Agar – Spreading method															
			Dilution	Before confirmation		After confirmation		log cfu/g		Dilution	Reading 45h				Reading 72h											
				cfu/plate		cfu/plate		cfu/g			cfu/plate (45H)		Confirmation (ox;BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g				
Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2					
4450	Raw goat milk cheese	Fromage de chèvre au lait cru	10	>450	>450	/	/	>15000	>15000	>4,18	>4,18	10	>450	>450	+/+	>15000	>15000	>4,18	>4,18	>450	>450	>15000	>15000	>4,18	>4,18	b
			100	>150	>150								100	>150	>150	+/+					>150	>150				
4451	Pasteurized cream	Crème fraîche pasteurisée	10	0	0	0	0	<10	<10	<1,00	<1,00	10	0	3	/+	<1,00	30	<1,00	1,48*	0	3	<10	30	<1,00	1,48*	a
			100	0	0	0	0						100	1	0	+/-					1	0				
4452	Butter made from pasteurised milk	Beurre au lait pasteurisé	10	0	0	0	0	<10	<10	<1,00	<1,00	100	1	3	+/+	100	300	2,00*	2,48*	1	3	100	300	2,00	2,48*	a
			100	0	0	0	0						1000	0	0	/					0	0				
4453	Mozzarella	Mozzarella	1000	0	0	0	0	<1000	<1000	<3,00	<3,00	1000	2	0	+/	2000	<1000	3,30*	<3,00	2	0	2000	<1000	3,30*	<3,00	a
			10000	0	0	0	0						10000	0	0	/					0	0				
4454	Mozzarella	Mozzarella	100	47	37	0	0	<100	<100	<2,00	<2,00	100	0	0	/	<100	<100	<2,00	<2,00	0	0	<100	<100	<2,00	<2,00	a
			1000	5	10	0	0						1000	0	0	/					0	0				
4552	Raw goat milk cheese	Fromage de chèvre au lait cru	1000000	>150	>150	/	/	>10000000	>10000000	>7,00	>7,00	/	/	/	/	/	/	/	/					/	/	b
			10000000	27	30	0	0						/	/	/	/									/	
4553	Raw ewe milk cheese	Fromage de brebis au lait cru	100000	>150	>150	/	/	>10000000	>10000000	>7,00	>7,00	/	/	/	/	/	/	/	/					/	/	b
			1000000	21	28	0	0						/	/	/	/									/	
4554	Raw goat milk cheese	Fromage de chèvre au lait cru	10000	>150(Annex flora)	>150(Annex flora)	/	/	/	/	ND	ND	/	/	/	/	/	/	/	/					/	/	b
			100000	>150(Annex flora)	>150(Annex flora)	/	/						/	/	/	/									/	
4555	Raw milk semi-salted butter	Beurre demi-sel au lait cru	10	22 (95)	23(96)	22 (95)	23(96)	270(1100)	260(1100)	2,43	2,41	100	55	44	+/+	5500	4500	3,74	3,65	61	51	6100	5100	3,79	3,71	b
			100	8(19)	5(25)	8(19)	5(25)			3,04 (72h)	3,04 (72h)			1000	6	5	+/+					6	5			
4556	Half-salted butter with raw milk	Beurre demi-sel au lait cru	10	10(27)	21(34)	10(34)	21(34)	140(340)	220(380)	2,15	2,34	/	/	/	/	/	/	/	/					/	/	b
			100	5(10)	3(8)	5(8)	3(8)			2,53 (72h)	2,58 (72h)			/	/	/	/								/	
4557	Mozzarella	Mozzarella	100	58(microcolonies) (112)		58(112)		5600(11000)		3,75	/	100	136	/	+	14000	/	4,15	/	140	/	14000	/	4,15	/	a
			1000	4(14)		4(14)				4,04 (72h)			1000	15	/	+					16	/				
4558	Mozzarella	Mozzarella	100	17(29)		17(29)		2100(3400)		3,32	/	100	58	/	+	5900	/	3,77	/	65	/	6500	/	3,81	/	a
			1000	6(8)		6(8)				3,53 (72h)			1000	7	/	+					7	/				
4559	Pasteurised half skimmed milk	Lait pasteurisé 1/2 écrémé	1000	4 (microcolonies) (30)		16(30)		18000(35000)		4,26	/	100	141	/	+	14000	/	4,15	/	145	/	14000	/	4,15	/	a
			10000	0(8)		4(8)				4,54 (72h)			1000	8	/	+					8	/				
4560	Pasteurised whole milk	Lait pasteurisé entier	100	62(100)		62(100)		6200(11000)		3,79	/	1000	11	/	+	11000	/	4,04	/	17	/	16000	/	4,20	/	a
			1000	6(19)		6(19)				4,04 (72h)			10000	1	/	+					1	/				
4561	Goat's cheese with pasteurised milk	Bouchon de chèvre au lait pasteurisé	1000			/	/	/	/	ND	I	100	131	/	+	13000	/	4,11	/	136	/	13000	/	4,11	/	a
			10000	Annex flora (mould)		/	/						1000	7	/	+					7	/				
4843	Vanilla raspberry verrine	Verrine vanille framboise	10000	58	62	58	62	650000	630000	5,81	5,80	10000	56	/	+	590000		5,77	/	63	/	650000		5,81	/	c
			100000	13	7	13	7						100000	9	/	+					9	/				

DAIRY PRODUCTS																											
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*								Alternative method: RHAPSODY Agar – Spreading method																
			Dilution	Before confirmation		After confirmation				log cfu/g		Dilution	Reading 45h					Reading 72h									
				cfu/plate		cfu/plate		cfu/g		Rep1			Rep2		cfu/plate (45H)		Confirmation (ox;BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g	
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2		Rep1	Rep2	Rep1	Rep2		Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2		
4844	Verrine of crème brûlée with red fruits	Verrine crème brûlée fruits rouges	10000	53	49	53	49	520000	490000	5,72	5,69	10000	39	/	+	380000		5,58	/	39	/	380000		5,58	/		
			100000	4	5	4	5					100000	3	/	+					3	/						
4845	Raspberry mascarpone verrine	Verrine mascarpone framboise	1000	47	49	47	49	45000	47000	4,65	4,67	1000	47	/	+	46000		4,66	/	51	/	50000		4,70	/		
			10000	3	3	3	3					10000	4	/	+					4	/						
4846	Cheese (Bethmale)	Bethmale	1000	unreadable (Annex flora)	unreadable (Annex flora)	/	/	<1000	<1000	<3,00	<3,00	10	73	/	+	770		2,89	/	79	/	840		2,92	/		
			10000	34	37	0	0					100	12	/	+					13	/						
4847	Tiramisu dessert box	Buchette tiramisu	1000	119	125	119	125	120000	120000	5,08	5,08	1000	119	/	+	120000		5,08	/	120	/	120000		5,08	/		
			10000	10	8	10	8					10000	10	/	+					10	/						
2590	Raw cow's milk	Lait cru de vache	100	155	/	155	/	15000	/	4,18	/	100	143	/	+	14000	/	4,15	/	156	/	15100	/	4,18	/		
			1000	9	/	9	/					1000	8	/	+					10	/						

■ Samples tested in 2019 for renewal

DAIRY PRODUCTS																											
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*										Alternative method: RHAPSODY Agar - Spiral														
			Dilution	Before confirmation		After confirmation				log cfu/g		Dilution	Reading area (rep 1/ rep 2)	Reading 45h						Reading 72h							
				cfu/plate		cfu/plate		cfu/g						cfu/plate		Confirmation (ox:BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g		
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2			Rep1	Rep2		Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	
3943	Raw milk cheese (Morbier)	Morbier au lait cru	100	35	34	0	0	<100	<100	<2,00	<2,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	b
			1000	3	3	0	0																				
3944	Raw cream	Crème crue	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	b
			100	0	0	0	0																				
3945	Mozzarella	Mozzarella	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	a
			100	0	0	0	0																				
3946	Pasteurised half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	a
			100	0	0	0	0																				
3947	Raw milk	Lait cru	10000	27	33	27	33	250000	310000	5,40	5,49	10	3/4	53	63	+/+	110000	70000	5,04	4,85	45	57	89000	63000	4,95	4,80	b
			100000	1	1	1	1																				
4071	Cheese (Saint-Nectaire)	Saint Nectaire fermier	1000	>150	>150	0	0	<1000	<1000	<3,00	<3,00	10	st	22	21	+/+	4400	4200	3,64	3,62	22	21	4400	4200	3,64	3,62	b
			10000	>150	>150	0	0																				
4072	Cheese (Selles sur Cher)	Selles sur cher	10	6	6	6	6	60	60	1,78	1,78	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	b
			100	1	2	1	2			Ne	Ne																
4073	Raw milk	lait cru	10000	15	15	15	15	140000	150000	5,15	5,18	10	st	88	75	+/+	15000	18000	4,18	4,26	88	76	18000	15000	4,26	4,18	b
			100000	0	2	0	2																				
4074	Pasteurized half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	a
			100	0	0	0	0																				
4075	Pasteurized half skimmed milk	Lait pasteurisé 1/2 écrémé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	a
			100	0	0	0	0																				
4249	Rice with milk	Riz au lait	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	c
			100	0	0	0	0																				
4250	Chantilly (Forêt noire)	Chantilly (forêt noire)	10	188	198	188	198	1900	2000	3,28	3,30	10	st	2	1	+/+	400	200	2,60*	2,30*	3	1	600	200	2,78*	2,30*	c
			100	24	19	24	19																				
4379	Chantilly cream (cabbage whipped cream)	Chantilly (Chou chantilly)	100	>150	>150	/	/	54000	42000	4,73	4,62	10	5	77	69	+/+	51000	45000	4,71	4,65	55	41	61000	45000	4,79	4,65	c
			1000	54	42	54	42			N'	N'																
4380	Tiramisu	Tiramisu	100000	89	89	89	89	8600000	9100000	6,93	6,96	1000	3	54	55	+/+	11000000	11000000	7,04	7,04	63	51	12000000	10000000	7,08	7,00	c
			1000000	6	11	6	11																				
4381	Cheese (tome)	Tomme blanche	1000	74	66	30	40	32000	36000	4,51	4,56	10	6	56	69	+/+	22000	28000	4,34	4,45	76	78	30000	31000	4,48	4,49	a
			10000	8	10	5	0																				
4382	Nougat ice cream	Crème glacée nougat	10	39	42	39	42	410	390	2,61	2,59	10	st	1	3	+/+	200	600	2,30*	2,78*	1	3	200	600	2,30*	2,78*	c
			100	7	2	6	1																				
4383	Salted butter caramel ice cream	Crème glacée au caramel au beurre salé	10	33	33	13	26	150	260	2,18	2,41	10	st	3	2	+/+	<800	<800	2,78*	2,60*	3	2	600	400	2,78*	2,60*	c
			100	5	9	3	2																				
4384	Pasteurised half skimmed milk	Lait pasteurisé 1/2 écrémé	1000	25	40	25	40	26000	39000	4,41	4,59	10	st (6)	0 (76 white)	0 (64 white)	/	<200	<200	<2,30	<2,30	73	75	29000	30000	4,46	4,48	a
			10000	4	3	4	3																				

DAIRY PRODUCTS																											
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*								Alternative method: RHAPSODY Agar - Spiral																
			Dilution	Before confirmation		After confirmation				log cfu/g		Dilution	Reading area (rep 1/ rep 2)	Reading 45h						Reading 72h							
				cfu/plate		cfu/plate		cfu/g						cfu/plate		Confirmation (ox:BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g		
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2			Rep1	Rep2		Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	
4385	Raw milk cottage cheese	Fromage blanc au lait cru entier	100	unreadable (mould)		/	/	<1000	1500	<3,00	3,18*	10	st	1	2	+/+	200	400	2,30*	2,60*	1	3	200	600	2,30*	2,78*	b
			1000	3	6	0	3																				
4450	Raw goat milk cheese	Fromage de chèvre au lait cru	10	>450	>450	/	/	>15000	>15000	>4,18	>4,18	10	1	Un-readable	Un-readable	/	/	/	ND	ND	Un-readable	Un-readable	/	/	ND	ND	b
			100	>150	>150																						
4451	Pasteurized cream	Crème fraîche pasteurisée	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	0	/	<200	<200	<2,30	<2,30	0	0	<200	<200	<2,30	<2,30	a
			100	0	0	0	0																				
4452	Butter made from pasteurised milk	Beurre au lait pasteurisé	10	0	0	0	0	<10	<10	<1,00	<1,00	10	st	0	1	/+	<200	200	<2,30	2,30*	0	1	<200	200	<2,30	2,30*	a
			100	0	0	0	0																				
4453	Mozzarella	Mozzarella	1000	0	0	0	0	<1000	<1000	<3,00	<3,00	10	st	4	4	+/+	800	800	2,90	2,90	4	4	800	800	2,90	2,90	a
			10000	0	0	0	0																				
4454	Mozzarella	Mozzarella	100	47	37	0	0	<100	<100	<2,00	<2,00	10	st	1	0	+/	200	<200	2,30*	<2,30	1	0	200	<200	2,30*	<2,30	a
			1000	5	10	0	0																				
4552	Raw goat milk cheese	Fromage de chèvre au lait cru	1000000	>150	>150	/	/	>10000000	>10000000	>7,00	>7,00	100	2	71	54	+/+	2800000	21000000	6,45	7,32	58	66	2300000	2600000	6,36	6,41	b
			10000000	27	30	0	0																				
4553	Raw ewe milk cheese	Fromage de brebis au lait cru	100000	>150	>150	/	/	>10000000	>10000000	>7,00	>7,00	100	st	10	8	+/+	20000	16000	4,30	4,20	10	8	20000	16000	4,30	4,20	b
			1000000	21	28	0	0																				
4554	Raw goat milk cheese	Fromage de chèvre au lait cru	10000	>150 (Annex flora)	>150 (Annex flora)	/	/	/	/	ND	ND	100	5	52	53	+/+	340000	350000	5,53	5,54	50	55	330000	360000	5,52	5,56	b
			100000	>150 (Annex flora)	>150 (Annex flora)	/	/																				
4555	Raw milk semi-salted butter	Beurre demi-sel au lait cru	10	22 (95)	23(96)	22 (95)	23(96)	270 (1100)	260 (1100)	2,43	2,41	10	st	27	22	+/+	5400	4400	3,73	3,64	29	28	5800	5600	3,76	3,75	b
			100	8(19)	5(25)	8(19)	5(25)			3,04 (72h)	3,04 (72h)																
4556	Half-salted butter with raw milk	Beurre demi-sel au lait cru	10	10(27)	21(34)	10(34)	21(34)	140 (340)	220 (380)	2,15	2,34	10	st	13	10	+/+	2600	2000	3,41	3,30	13	10	2600	2000	3,41	3,30	b
			100	5(10)	3(8)	5(8)	3(8)			2,53 (72h)	2,58 (72h)																
4557	Mozzarella	Mozzarella	100	58 (micro-colonies) (112)	58 (112)			5600 (11000)		3,75	/	10	5	43	/	+	28000	/	4,45	/	44	/	29000	/	4,46	/	a
			1000	4(14)		4(14)				4,04 (72h)																	
4558	Mozzarella	Mozzarella	100	17(29)		17(29)		2100 (3400)		3,32	/	10	st	39	/	+	7800	/	3,89	/	40	/	8000	/	3,90	/	a
			1000	6(8)		6(8)				3,53 (72h)																	
4559	Pasteurised half skimmed milk	Lait pasteurisé 1/2 écrémé	1000	4 (micro-colonies) (30)		16(30)		18000 (35000)		4,26	/	10	st	61	/	+	12000	/	4,08	/	69	/	14000	/	4,15	/	a
			10000	0(8)		4(8)				4,54 (72h)																	

DAIRY PRODUCTS																											
Sample	Product	Product (in French)	Reference method: XP/ISO TS 11059*									Alternative method: RHAPSODY Agar - Spiral														Type	
			Dilution	Before confirmation		After confirmation				log cfu/g		Dilution	Reading area (rep 1/ rep 2)	Reading 45h						Reading 72h							
				cfu/plate		cfu/plate		cfu/g						cfu/plate		Confirmation (ox:BCP) Rep1/Rep2	cfu/g		log cfu/g		cfu/plate		cfu/g		log cfu/g		
				Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2			Rep1	Rep2		Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1	Rep2	Rep1		Rep2
4560	Pasteurised whole milk	Lait pasteurisé entier	100	62(100)		62 (100)		6200 (11000)		3,79	/	10	st	84	/	+	17000	/	4,23	/	91	/	18000	/	4,26	/	a
			1000	6(19)		6(19)				4,04 (72h)																	
4561	Goat's cheese with pasteurised milk	Bouchon de chèvre au lait pasteurisé	1000	Annex flora (mould)		/	/	/	/	ND	/	10	st	63	/	+	13000	/	4,11	/	66	/	13000	/	4,11	/	a
			10000			/	/																				
4843	Vanilla raspberry verrine	Verrine vanille framboise	10000	58	62	58	62	650000	630000	5,81	5,80	1000	st	37	43	+	720000	880000	5,86	5,94	37	43	720000	880000	5,86	5,94	c
			100000	13	7	13	7																				
4844	Verrine of crème brûlée with red fruits	Verrine crème brûlée fruits rouges	10000	53	49	53	49	520000	490000	5,72	5,69	10	1	56	59	+	560000	600000	5,75	5,78	59	61	600000	620000	5,78	5,79	c
			100000	4	5	4	5																				
4845	Raspberry mascarpone verrine	Verrine mascarpone framboise	1000	47	49	47	49	45000	47000	4,65	4,67	10	5	91	87	+	59000	57000	4,77	4,76	93	82	60000	54000	4,78	4,73	c
			10000	3	3	3	3																				
4846	Cheese (Bethmale)	Bethmale	1000	Unreadable (annex flora)	Unreadable (annex flora)	/	/	<1000	<1000	<3,00	<3,00	10	st	3	4	+	600	800	2,78*	2,90	3	4	600	800	2,78*	2,90	a
			10000	34	37	0	0																				
4847	Tiramisu dessert box	Buchette tiramisu	1000	119	125	119	125	120000	120000	5,08	5,08	10	3	75	69	+	150000	130000	5,18	5,11	79	72	160000	140000	5,20	5,15	c
			10000	10	8	10	8																				
2590	Raw cow's milk	Lait cru de vache	100	155	/	155	/	15000	/	4,18	/	1	3	34	/	+	6700	/	3,83	/	37	/	7300	/	3,86	/	b
			1000	9	/	9	/																				

Appendix 5 – Relative trueness study: calculations

Category	Type	Sample	Product	Spreading method 45h										
				Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference corrected values	
				Reference method	Alternative method			<4 CFU/plate	<or> limit of quantification corrected values					
1	a	3940	Pork chop	6,53	6,04	6,29	-0,49			#N/A		#N/A		
	a	3942	Rump steak	6,36	6,30	6,33	-0,06			#N/A		#N/A		
	a	4066	Sliced leg of lamb	3,85	3,86	3,85	0,02			#N/A		#N/A		
	a	4439	Frozen minced steak	2,62	2,28	2,45	-0,34			#N/A		#N/A		
	a	4440	Frozen beef fillet tournedos	3,90	3,45	3,67	-0,45			#N/A		#N/A		
	a	4441	Frozen sirloin steak	2,36	2,11	2,24	-0,25			#N/A		#N/A		
	a	4442	Frozen veal escalope	2,41	2,00	2,21	-0,41			#N/A		#N/A		
	a	4443	Frozen filet mignon	4,71	4,30	4,50	-0,41			#N/A		#N/A		
	b	3941	Frozen turkey escalope	5,46	5,40	5,43	-0,06			#N/A		#N/A		
	b	4247	Raw chicken leg	4,66	4,93	4,80	0,27			#N/A		#N/A		
	b	4248	Quail	5,30		#N/A		5,30		5,30	0,00	#N/A		
	b	4444	Frozen turkey saute	3,67	3,66	3,67	-0,01			#N/A		#N/A		
	b	4445	Chicken	6,18	6,18	6,18	0,00			#N/A		#N/A		
	b	4446	Duck leg	8,32	8,23	8,28	-0,09			#N/A		#N/A		
	c	3938	Plain bacon	0,00		#N/A			1,00	#N/A		0,50		
	c	3939	Chipolatas	5,81	5,52	5,66	-0,29			#N/A		#N/A		
	c	4067	Salted pork belly	2,51		#N/A			0,00	#N/A		1,25		
	c	4068	Parsley head pâté	2,46	2,04	2,25	-0,42			#N/A		#N/A		
	c	4069	Pork snout with tongue	1,00		#N/A			0,00	#N/A		0,50		
	c	4070	Cooked ham	1,30		#N/A		1,60		1,45	0,30	#N/A		
	c	4244	Salami	0,70		#N/A		1,00		0,85	0,30	#N/A		
	c	4245	Sausage	1,70		#N/A			0,00	#N/A		0,85		
	c	4246	Rolled brisket	5,00	4,86	4,93	-0,14			#N/A		#N/A		
	c	4447	Coppa	3,59	2,96	3,28	-0,63			#N/A		#N/A		
	c	4448	White ham	3,64	3,52	3,58	-0,12			#N/A		#N/A		
	c	4449	Pâté	4,08	3,90	3,99	-0,18			#N/A		#N/A		
Average category 1														
Standard deviation of differences category 1														
2	a	3945	Mozzarella	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	3946	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4074	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4075	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4381	Cheese (Tomme)	4,51	4,11	4,31	-0,39			#N/A		#N/A		
	a	4384	Pasteurized half skimmed milk	4,41		#N/A			2,00	#N/A		3,21	-2,41	
	a	4451	Pasteurised cream	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4452	Pasteurised milk butter	0,00		#N/A			2,00	#N/A		1,00	2,00	
	a	4453	Mozzarella	2,00		#N/A			3,30	#N/A		2,65	1,30	
	a	4454	Mozzarella	1,00		#N/A			1,00	#N/A		1,00	0,00	
	a	4557	Mozzarella	3,75	4,15	3,95	0,40			#N/A		#N/A		
	a	4558	Mozzarella	3,32	3,77	3,55	0,45			#N/A		#N/A		
	a	4559	Pasteurized half skimmed milk	4,26	4,15	4,20	-0,11			#N/A		#N/A		
	a	4560	Pasteurised whole milk	3,79	4,04	3,92	0,25			#N/A		#N/A		
	a	4561	Goat's cheese with pasteurised milk			#N/A				#N/A		#N/A		
	a	4846	Cheese (Bethmale)	2,00		#N/A			2,89	#N/A		2,44	0,89	
	b	3943	Raw milk cheese (Morbier)	1,00		#N/A			1,00	#N/A		1,00	0,00	
	b	3944	Raw cream	0,00		#N/A			0,00	#N/A		0,00	0,00	
	b	3947	Raw milk	5,40	5,18	5,29	-0,22			#N/A		#N/A		
	b	4071	Cheese (Saint Nectaire)	2,00		#N/A			3,59	#N/A		2,80	1,59	
	b	4072	Cheese (Selles sur Cher)	1,78	1,60	1,69	-0,18			#N/A		#N/A		
	b	4073	Raw milk	5,15	4,69	4,92	-0,46			#N/A		#N/A		
	b	4385	Raw milk cottage cheese	2,00		#N/A			1,48	#N/A		1,74	-0,52	
	b	4450	Raw goat milk cheese	5,18		#N/A			5,18	#N/A		5,18	0,00	
	b	4552	Raw goat milk cheese	8,00		#N/A				#N/A		#N/A		
	b	4553	Raw ewe milk cheese	8,00		#N/A				#N/A		#N/A		
	b	4554	Goat cheese in raw milk			#N/A				#N/A		#N/A		
	b	4555	Raw milk semi-salted butter	2,43	3,74	3,09	1,31			#N/A		#N/A		
	b	4556	Semi-salted butter with raw milk	2,15		#N/A				#N/A		#N/A		
	b	2590	Raw cow's milk	4,18	4,15	4,17	-0,03			#N/A		#N/A		
	c	4249	Rice with milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	c	4250	Chantilly (black forest)	3,28	2,90	3,09	-0,38			#N/A		#N/A		
	c	4379	Chantilly (Cabbage whipped cream)	4,73	4,67	4,70	-0,06			#N/A		#N/A		
	c	4380	Tiramisu	6,93	6,99	6,96	0,05			#N/A		#N/A		
	c	4382	Nougat ice cream	2,61	2,43	2,52	-0,18			#N/A		#N/A		
	c	4383	Salted butter caramel ice cream	2,18	2,08	2,13	-0,10			#N/A		#N/A		
	c	4843	Vanilla raspberry verrine	5,81	5,77	5,79	-0,04			#N/A		#N/A		
	c	4844	Verrine crème brûlée red fruits	5,72	5,58	5,65	-0,14			#N/A		#N/A		
	c	4845	Raspberry mascarpone verrine	4,65	4,66	4,66	0,01			#N/A		#N/A		
	c	4847	Tiramisu dessert	5,08	5,08	5,08	0,00			#N/A		#N/A		
Average category 2														
Standard deviation of differences category 2														
Average all categories														
Standard deviation of differences all categories														

n all	38						
β=95%	T(0,05;70)=	2,026192463					
		0,689726696	Upper limit	Lower limit	Linear		
Average (minimal value)	0,00		0,59	-0,79	-0,10		
Average (maximal value)	10,00		0,59	-0,79	-0,10		
Category	n	T(0,05;70)=	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	19	2,10	0,22	0,48	-0,21	-0,70	0,27
2	19	2,10	0,39	0,85	0,01	-0,84	0,86
All categories	38	2,03	0,34	0,69	-0,10	-0,79	0,59

Category	Type	Sample	Product	Spreading method 72h										
				Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference corrected values	
				Reference method	Alternative method			<4 CFU/plate	<or> limit of quantification corrected values					
1	a	3940	Pork chop	6,53	6,15	6,34	-0,39			#N/A		#N/A		
	a	3942	Rump steak	6,36	6,40	6,38	0,04			#N/A		#N/A		
	a	4066	Sliced leg of lamb	3,85	3,86	3,85	0,02			#N/A		#N/A		
	a	4439	Frozen minced steak	2,62	2,52	2,57	-0,10			#N/A		#N/A		
	a	4440	Frozen beef fillet tournedos	3,90	3,56	3,73	-0,34			#N/A		#N/A		
	a	4441	Frozen sirloin steak	2,36	2,32	2,34	-0,04			#N/A		#N/A		
	a	4442	Frozen veal escalope	2,41	2,15	2,28	-0,27			#N/A		#N/A		
	a	4443	Frozen filet mignon	4,71	4,65	4,68	-0,05			#N/A		#N/A		
	b	3941	Frozen turkey escalope	5,46	5,49	5,48	0,03			#N/A		#N/A		
	b	4247	Raw chicken leg	4,66	4,96	4,81	0,30			#N/A		#N/A		
	b	4248	Quail	5,30		#N/A			4,60	#N/A		4,95	-0,70	
	b	4444	Frozen turkey saute	3,67	3,68	3,68	0,01			#N/A		#N/A		
	b	4445	Chicken	6,18	6,26	6,22	0,08			#N/A		#N/A		
	b	4446	Duck leg	8,32	8,28	8,30	-0,04			#N/A		#N/A		
	c	3938	Plain bacon	0,00		#N/A			1,00	#N/A		0,50		
	c	3939	Chipolatas	5,81	5,52	5,66	-0,29			#N/A		#N/A		
	c	4067	Salted pork belly	2,51	2,08	2,29	-0,43			#N/A		#N/A		
	c	4068	Parsley head pâté	2,46		#N/A				#N/A		#N/A		
	c	4069	Pork snout with tongue	1,00		#N/A			0,00	#N/A		0,50		
	c	4070	Cooked ham	1,30		#N/A		1,60		1,45	0,30	#N/A		
	c	4244	Salami	0,70		#N/A		1,30		1,00	0,60	#N/A		
	c	4245	Sausage	1,70		#N/A			0,00	#N/A		0,85		
	c	4246	Rolled brisket	5,00	4,93	4,96	-0,07			#N/A		#N/A		
	c	4447	Coppa	3,59	3,04	3,32	-0,55			#N/A		#N/A		
	c	4448	White ham	3,64	3,52	3,58	-0,12			#N/A		#N/A		
	c	4449	Pâté	4,08	3,92	4,00	-0,15			#N/A		#N/A		
Average category 1														
Standard deviation of differences category 1														
2	a	3945	Mozzarella	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	3946	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4074	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4075	Pasteurized half skimmed milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4381	Cheese (Tomme)	4,51	4,32	4,41	-0,18			#N/A		#N/A		
	a	4384	Pasteurized half skimmed milk	4,41	4,67	4,54	0,26			#N/A		#N/A		
	a	4451	Pasteurised cream	0,00		#N/A			0,00	#N/A		0,00	0,00	
	a	4452	Pasteurised milk butter	0,00		#N/A			2,00	#N/A		1,00	2,00	
	a	4453	Mozzarella	2,00		#N/A			3,30	#N/A		2,65	1,30	
	a	4454	Mozzarella	1,00		#N/A			1,00	#N/A		1,00	0,00	
	a	4557	Mozzarella	3,75	4,15	3,95	0,40			#N/A		#N/A		
	a	4558	Mozzarella	3,32	3,81	3,57	0,49			#N/A		#N/A		
	a	4559	Pasteurized half skimmed milk	4,26	4,15	4,20	-0,11			#N/A		#N/A		
	a	4560	Pasteurized whole milk	3,79	4,20	4,00	0,41			#N/A		#N/A		
	a	4561	Goat's cheese with pasteurised milk			#N/A				#N/A		#N/A		
	a	4846	Cheese (Bethmale)	2,00		#N/A			2,92	#N/A		2,46	0,92	
	b	3943	Raw milk cheese (Morbier)	1,00		#N/A			1,00	#N/A		1,00	0,00	
	b	3944	Raw cream	0,00		#N/A			0,00	#N/A		0,00	0,00	
	b	3947	Raw milk	5,40	5,18	5,29	-0,22			#N/A		#N/A		
	b	4071	Cheese (Saint Nectaire)	2,00		#N/A			3,59	#N/A		2,80	1,59	
	b	4072	Cheese (Selles sur Cher)	1,78	1,60	1,69	-0,18			#N/A		#N/A		
	b	4073	Raw milk	5,15	4,69	4,92	-0,46			#N/A		#N/A		
	b	4385	Raw milk cottage cheese	2,00		#N/A			2,67	#N/A		2,34	0,67	
	b	4450	Raw goat milk cheese	5,18		#N/A			5,18	#N/A		5,18	0,00	
	b	4552	Raw goat milk cheese	8,00		#N/A				#N/A		#N/A		
	b	4553	Raw ewe milk cheese	8,00		#N/A				#N/A		#N/A		
	b	4554	Goat cheese in raw milk			#N/A				#N/A		#N/A		
	b	4555	Raw milk semi-salted butter	2,43	3,79	3,11	1,36			#N/A		#N/A		
	b	4556	Semi-salted butter with raw milk	2,15		#N/A				#N/A		#N/A		
	b	2590	Raw cow's milk	4,18	4,18									
	c	4249	Rice with milk	0,00		#N/A			0,00	#N/A		0,00	0,00	
	c	4250	Chantilly (black forest)	3,28	3,04	3,16	-0,24			#N/A		#N/A		
	c	4379	Chantilly (Cabbage whipped cream)	4,73	4,67	4,70	-0,06			#N/A		#N/A		
	c	4380	Tiramisu	6,93	6,99	6,96	0,05			#N/A		#N/A		
	c	4382	Nougat ice cream	2,61	2,58	2,60	-0,03			#N/A		#N/A		
	c	4383	Salted butter caramel ice cream	2,18	2,41	2,30	0,24			#N/A		#N/A		
	c	4843	Vanilla raspberry verrine	5,81	5,81	5,81	0,00			#N/A		#N/A		
	c	4844	Verrine crème brûlée red fruits	5,72	5,58	5,65	-0,14			#N/A		#N/A		
	c	4845	Raspberry mascarpone verrine	4,65	4,70	4,68	0,05			#N/A		#N/A		
	c	4847	Tiramisu dessert	5,08	5,08	5,08	0,00			#N/A		#N/A		
Average category 2														
Standard deviation of differences category 2														
Average all categories								Dall						
Standard deviation of differences all categories								SDall						

n all 39
 $\beta=95\%$ $T(0,05;70)=$ 2,024394164
 0,67391997 Upper limit Lower limit Linear

Average (minimal value)	0,00	0,65	-0,69	-0,02
Average (maximal value)	10,00	0,65	-0,69	-0,02

Category	n	$T(0,05;70)=$	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	19	2,10	0,21	0,44	-0,13	-0,57	0,32
2	20	2,09	0,40	0,85	0,09	-0,76	0,93
All categories	39	2,02	0,33	0,67	-0,02	-0,69	0,65

Category	Type	Sample.	Product	Spiral 72 h									
				Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference corrected values
				Reference method	Alternative method			<4 CFU/plate	<or> limit of quantification corrected values				
1	a	3940	Pork chop	6,53	6,04	6,29	-0,49			#N/A		#N/A	
	a	3942	Rump steak	6,36	6,45	6,40	0,09			#N/A		#N/A	
	a	4066	Sliced leg of lamb	3,85	3,78	3,81	-0,07			#N/A		#N/A	
	a	4439	Frozen minced steak	2,62		#N/A		2,60		2,61	-0,02	#N/A	
	a	4440	Frozen beef fillet tournedos	3,90	3,60	3,75	-0,30			#N/A		#N/A	
	a	4441	Frozen sirloin steak	2,36		#N/A		2,78		2,57	0,42	#N/A	
	a	4442	Frozen veal escalope	2,41		#N/A		2,30		2,36	-0,11	#N/A	
	a	4443	Frozen filet mignon	4,71	4,53	4,62	-0,18			#N/A		#N/A	
	b	3941	Frozen turkey escalope	5,46	5,36	5,41	-0,10			#N/A		#N/A	
	b	4247	Raw chicken leg	4,66	4,71	4,69	0,04			#N/A		#N/A	
	b	4248	Quail	5,30		#N/A		4,83		5,07	-0,47	#N/A	
	b	4444	Frozen turkey saute	3,67	3,81	3,74	0,13			#N/A		#N/A	
	b	4445	Chicken	6,18	6,52	6,35	0,34			#N/A		#N/A	
	b	4446	Duck leg	8,32	8,11	8,22	-0,21			#N/A		#N/A	
	c	3938	Plain bacon	0,00		#N/A			2,30	#N/A		1,15	
	c	3939	Chipolatas	5,81	5,52	5,66	-0,29			#N/A		#N/A	
	c	4067	Salted pork belly	2,51		#N/A		2,30		2,40	-0,21	#N/A	
	c	4068	Parsley head pâté	2,46		#N/A		2,60		2,53	0,14	#N/A	
	c	4069	Pork snout with tongue	1,00		#N/A			1,30	#N/A		1,15	
	c	4070	Cooked ham	1,30		#N/A		2,30		1,80	1,00	#N/A	
	c	4244	Salami	0,70		#N/A			1,30	#N/A		1,00	
	c	4245	Sausage	1,70		#N/A			1,30	#N/A		1,50	
	c	4246	Rolled brisket	5,00	5,08	5,04	0,08			#N/A		#N/A	
	c	4447	Coppa	3,59	2,90	3,25	-0,69			#N/A		#N/A	
	c	4448	White ham	3,64	3,98	3,81	0,34			#N/A		#N/A	
	c	4449	Pâté	4,08	4,49	4,29	0,41			#N/A		#N/A	
Average category 1													
Standard deviation of differences category 1													
2	a	3945	Mozzarella	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	3946	Pasteurized half skimmed milk	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	4074	Pasteurized half skimmed milk	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	4075	Pasteurized half skimmed milk	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	4381	Cheese (Tomme)	4,51	4,48	4,49	-0,03			#N/A		#N/A	
	a	4384	Pasteurized half skimmed milk	4,41	4,46	4,44	0,05			#N/A		#N/A	
	a	4451	Pasteurised cream	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	4452	Pasteurised milk butter	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	4453	Mozzarella	2,00		#N/A			2,90	#N/A		2,45	0,90
	a	4454	Mozzarella	1,00		#N/A			2,30	#N/A		1,65	1,30
	a	4557	Mozzarella	3,75	4,46	4,11	0,71			#N/A		#N/A	
	a	4558	Mozzarella	3,32	3,90	3,61	0,58			#N/A		#N/A	
	a	4559	Pasteurized half skimmed milk	4,26	4,15	4,20	-0,11			#N/A		#N/A	
	a	4560	Pasteurised whole milk	3,79	4,26	4,02	0,47			#N/A		#N/A	
	a	4561	Goat's cheese with pasteurised milk			#N/A				#N/A		#N/A	
	a	4846	Cheese (Bethmale)	2,00		#N/A			2,78	#N/A		2,39	0,78
	b	3943	Raw milk cheese (Morbier)	1,00		#N/A			1,30	#N/A		1,15	0,30
	b	3944	Raw cream	0,00		#N/A			1,30	#N/A		0,65	1,30
	b	3947	Raw milk	5,40	4,95	5,17	-0,45			#N/A		#N/A	
	b	4071	Cheese (Saint Nectaire)	2,00		#N/A			3,64	#N/A		2,82	1,64
	b	4072	Cheese (Selles sur Ccher)	1,78		#N/A			1,30	#N/A		1,54	-0,48
	b	4073	Raw milk	5,15	4,26	4,70	-0,89			#N/A		#N/A	
	b	4385	Raw milk cottage cheese	2,00		#N/A			2,30	#N/A		2,15	0,30
	b	4450	Raw goat milk cheese	5,18		#N/A				#N/A		#N/A	
	b	4552	Raw goat milk cheese	8,00		#N/A			6,36	#N/A		7,18	-1,64
	b	4553	Raw ewe milk cheese	8,00		#N/A			4,30	#N/A		6,15	-3,70
	b	4554	Raw goat milk cheese			#N/A				#N/A		#N/A	
	b	4555	Raw milk semi-salted butter	2,43	3,76	3,10	1,33			#N/A		#N/A	
	b	4556	Semi-salted butter with raw milk	2,15	3,41	2,78	1,26			#N/A		#N/A	
	b	2590	Raw cow's milk	4,18	3,86								
	c	4249	Rice with milk	0,00		#N/A			1,30	#N/A		0,65	1,30
	c	4250	Chantilly (black forest)	3,28		#N/A		2,78		3,03	-0,50	#N/A	
	c	4379	Chantilly (Cabbage whipped cream)	4,73	4,79	4,76	0,05			#N/A		#N/A	
	c	4380	Tiramisu	6,93	7,08	7,01	0,14			#N/A		#N/A	
	c	4382	Nougat ice cream	2,61		#N/A		2,30		2,46	-0,31	#N/A	
	c	4383	Salted butter caramel ice cream	2,18		#N/A		2,78		2,48	0,60	#N/A	
	c	4843	Vanilla raspberry verrine	5,81	5,86	5,84	0,04			#N/A		#N/A	
	c	4844	Verrine crème brûlée red fruits	5,72	5,78	5,75	0,06			#N/A		#N/A	
	c	4845	Raspberry mascarpone verrine	4,65	4,78	4,72	0,12			#N/A		#N/A	
	c	4847	Tiramisu dessert	5,08	5,20	5,14	0,12			#N/A		#N/A	
Average category 2							0,22						
Standard deviation of differences category 2							0,56						
Average all categories					Dall		0,08						
Standard deviation of differences all categories					SDall		0,47						

n all 32
 $\beta=95\%$ $T(0,05;70)=$ 2,039513446
0,979023264

	Upper limit	Lower limit	Linear
Average (minimal value)	1,06	-0,90	0,08
Average (maximal value)	1,06	-0,90	0,08

Category	n	$T(0,05;70)=$	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	15	2,14	0,00	0,00	0,00	0,00	0,00
2	17	2,12	0,56	1,23	0,22	-1,01	1,45
All categories	32	2,04	0,47	0,98	0,08	-0,90	1,06

Appendix 6 – Accuracy profiles: raw results (initial validation - 2015)

Matrix	Strain	Inoculation level	Sample	Reference method ISO 13720*				Alternative method: RHAPSODY																	
								Spreading method								Spiral method									
				45h				72h				45h					72h								
Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g				
Duck mousse Lot 44302 Total flora: 13000 cfu/g	<i>Pseudomonas putida</i> 4	300	4793	10	15	150	2,18	10	7	70	1,85	10	17	210	2,32	/	/	/	/	/	/	/	/		
				100	1			100	3			100	6			/	/	/	/	/	/	/	/		
			4794	10	32	330	2,52	10	11	140	2,15	10	23	260	2,41	/	/	/	/	/	/	/	/		
				100	4			100	4			100	5			/	/	/	/	/	/	/	/		
			4795	10	23	240	2,38	10	13	120	2,08	10	27	250	2,40	/	/	/	/	/	/	/	/		
				100	3			100	0			100	0			/	/	/	/	/	/	/	/		
		4796	10	23	230	2,36	10	13	150	2,18	10	25	260	2,41	/	/	/	/	/	/	/	/			
			100	2			100	3			100	3			/	/	/	/	/	/	/	/			
		4797	10	49	480	2,68	10	20	190	2,28	10	33	310	2,49	/	/	/	/	/	/	/	/			
			100	4			100	1			100	1			/	/	/	/	/	/	/	/			
		6000	4798	100	38	3900	3,59	100	45	4400	3,64	100	52	5000	3,70	10	st	21	4200	3,62	10	st	21	4200	3,62
				1000	5			1000	3			1000	3												
			4799	100	48	4600	3,66	100	45	4400	3,64	100	46	4500	3,65	10	st	29	5800	3,76	10	st	29	5800	3,76
				1000	3			1000	3			1000	4												
			4800	100	68	6500	3,81	100	32	3300	3,52	100	45	4500	3,65	10	st	24	4800	3,68	10	st	24	4800	3,68
				1000	3			1000	4			1000	5												
		4801	100	80	7600	3,88	100	44	4100	3,61	100	52	4800	3,68	10	st	29	5800	3,76	10	st	29	5800	3,76	
			1000	4			1000	1			1000	1													
		4802	100	56	5200	3,72	100	42	4200	3,62	100	48	4700	3,67	10	st	22	4000	3,60	10	st	22	4000	3,60	
			1000	1			1000	4			1000	4													
		60000	4803	1000	55	51000	4,71	1000	36	35000	4,54	1000	38	36000	4,56	/	/	/	/	/	/	/	/		
				10000	1			10000	2			10000	2			/	/	/	/	/	/	/	/		
			4804	1000	57	56000	4,75	1000	53	49000	4,69	1000	57	53000	4,72	/	/	/	/	/	/	/	/		
				10000	5			10000	1			10000	1			/	/	/	/	/	/	/	/		
			4805	1000	42	41000	4,61	1000	46	45000	4,65	1000	47	45000	4,65	/	/	/	/	/	/	/	/		
				10000	3			10000	3			10000	3			/	/	/	/	/	/	/	/		
		4806	1000	20	21000	4,32	1000	46	47000	4,67	1000	46	47000	4,67	/	/	/	/	/	/	/	/			
			10000	3			10000	6			10000	6			/	/	/	/	/	/	/	/			
		4807	1000	39	37000	4,57	1000	43	46000	4,66	1000	48	51000	4,71	/	/	/	/	/	/	/	/			
			10000	2			10000	8			10000	8			/	/	/	/	/	/	/	/			
100000	4808	1000	123	120000	5,08	1000	/	/	/	1000	/	/	/	10	3	54	110000	5,04	10	3	54	110000	5,04		
		10000	6			10000	/			10000	/														
	4809	1000	77	81000	4,91	1000	/	/	/	1000	/	/	/	10	3	45	87000	4,94	10	3	45	87000	4,94		
		10000	12			10000	/			10000	/														
	4810	1000	56	55000	4,74	1000	/	/	/	1000	/	/	/	10	3	91	100000	5,00	10	3	91	100000	5,00		
		10000	4			10000	/			10000	/														
4811	1000	60	62000	4,79	1000	/	/	/	1000	/	/	/	10	3	64	71000	4,85	10	3	64	71000	4,85			
	10000	8			10000	/			10000	/															
4812	1000	67	66000	4,82	1000	/	/	/	1000	/	/	/	10	3	75	150000	5,18	10	3	75	150000	5,18			
	10000	6			10000	/			10000	/															
600000	4813	10000	53	530000	5,72	10000	/	/	/	10000	/	/	/	100	4	65	710000	5,85	100	4	65	710000	5,85		
		100000	5			100000	/			100000	/														
	4814	10000	71	720000	5,86	10000	/	/	/	10000	/	/	/	100	4	46	910000	5,96	100	4	46	910000	5,96		
		100000	8			100000	/			100000	/														
	4815	10000	69	710000	5,85	10000	/	/	/	10000	/	/	/	100	4	53	580000	5,76	100	4	53	580000	5,76		
		100000	9			100000	/			100000	/														
4816	10000	57	610000	5,79	10000	/	/	/	10000	/	/	/	100	4	71	780000	5,89	100	4	71	780000	5,89			
	100000	10			100000	/			100000	/															
4817	10000	69	690000	5,84	10000	/	/	/	10000	/	/	/	100	4	64	710000	5,85	100	4	64	710000	5,85			
	100000	7			100000	/			100000	/															

* Analyses performed according to the COFRAC accreditation
 ADRIA Développement
 Summary report (Version 0)
 RHAPSODY Agar

Matrix	Strain	Inoculation level	Sample	Reference method ISO 13720*				Alternative method: RHAPSODY																		
								Spreading method								Spiral method										
				45h				72h				45h					72h									
Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g					
Duck moussé Lot 45720 Total flora 2600 cfu/g	<i>Pseudomonas putida</i> 4	300	4818	10	26	260	2,41	10	18	190	2,28	10	26	260	2,41	/	/	/	/	/	/	/	/	/		
				100	2			100	3			100	3			/	/	/	/	/	/	/	/	/		
			4819	10	25	260	2,41	10	22	230	2,36	10	22	230	2,36	/	/	/	/	/	/	/	/	/	/	
				100	3			100	3			100	3			/	/	/	/	/	/	/	/	/	/	
			4820	10	28	260	2,41	10	15	150	2,18	10	18	170	2,23	/	/	/	/	/	/	/	/	/	/	
				100	0			100	1			100	1			/	/	/	/	/	/	/	/	/	/	
			4821	10	23	210	2,32	10	21	200	2,30	10	21	200	2,30	/	/	/	/	/	/	/	/	/	/	
				100	0			100	1			100	1			/	/	/	/	/	/	/	/	/	/	
			4822	10	16	160	2,20	10	14	150	2,18	10	16	160	2,20	/	/	/	/	/	/	/	/	/	/	
				100	1			100	2			100	2			/	/	/	/	/	/	/	/	/	/	
			6000	4823	100	68	6500	3,81	100	83	8000	3,90	100	86	8300	3,92	10	st	27	5400	3,73	10	st	27	5400	3,73
					1000	4			1000	5			1000	5												
				4824	100	66	6400	3,81	100	44	4500	3,65	100	44	4500	3,65	10	st	20	4000	3,60	10	st	20	4000	3,60
					1000	4			1000	5			1000	5												
				4825	100	51	5300	3,72	100	42	4300	3,63	100	43	4400	3,64	10	st	25	5000	3,70	10	st	25	5000	3,70
					1000	7			1000	5			1000	5												
				4826	100	73	7300	3,86	100	54	5300	3,72	100	57	5500	3,74	10	st	24	4800	3,68	10	st	24	4800	3,68
				1000	7			1000	4			1000	4													
				4827	100	69	6700	3,83	100	20	2500	3,40	100	20	2500	3,40	10	st	29	5800	3,76	10	st	29	5800	3,76
				1000	5			1000	7			1000	7													
			60000	4828	1000	69	68000	4,83	1000	39	39000	4,59	1000	39	39000	4,59	/	/	/	/	/	/	/	/	/	
					10000	6			10000	4			10000	4			/	/	/	/	/	/	/	/	/	
				4829	1000	44	43000	4,63	1000	61	59000	4,77	1000	63	61000	4,79	/	/	/	/	/	/	/	/	/	
					10000	3			10000	4			10000	4			/	/	/	/	/	/	/	/	/	
				4830	1000	67	65000	4,81	1000	30	32000	4,51	1000	30	32000	4,51	/	/	/	/	/	/	/	/	/	
					10000	5			10000	5			10000	5			/	/	/	/	/	/	/	/	/	
				4831	1000	43	43000	4,63	1000	29	29000	4,46	1000	31	31000	4,49	/	/	/	/	/	/	/	/		
				10000	4			10000	3			10000	3			/	/	/	/	/	/	/	/	/		
				4832	1000	54	55000	4,74	1000	43	45000	4,65	1000	47	49000	4,69	/	/	/	/	/	/	/	/		
				10000	6			10000	7			10000	7			/	/	/	/	/	/	/	/	/		
	100000	4833	1000	81	86000	4,93	1000	/	/	/	1000	/	/	/	10	3	64	130000	5,11	10	3	64	130000	5,11		
			10000	14			10000	/			10000	/														
		4834	1000	73	76000	4,88	1000	/	/	/	1000	/	/	/	10	3	56	110000	5,04	10	3	56	110000	5,04		
			10000	11			10000	/			10000	/														
		4835	1000	105	100000	5,00	1000	/	/	/	1000	/	/	/	10	3	51	99000	5,00	10	3	51	99000	5,00		
			10000	5			10000	/			10000	/														
		4836	1000	77	74000	4,87	1000	/	/	/	1000	/	/	/	10	3	54	110000	5,04	10	3	54	110000	5,04		
		10000	4			10000	/			10000	/															
		4837	1000	120	120000	5,08	1000	/	/	/	1000	/	/	/	10	3	56	110000	5,04	10	3	56	110000	5,04		
		10000	7			10000	/			10000	/															
	600000	4838	10000	58	550000	5,74	10000	/	/	/	10000	/	/	/	100	4	49	540000	5,73	100	4	49	540000	5,73		
			100000	3			100000	/			100000	/														
		4839	10000	29	320000	5,51	10000	/	/	/	10000	/	/	/	100	4	49	540000	5,73	100	4	49	540000	5,73		
			100000	6			100000	/			100000	/														
		4840	10000	42	420000	5,62	10000	/	/	/	10000	/	/	/	100	4	71	470000	5,67	100	4	71	470000	5,67		
			100000	4			100000	/			100000	/														
		4841	10000	32	320000	5,51	10000	/	/	/	10000	/	/	/	100	4	65	430000	5,63	100	4	65	430000	5,63		
		100000	3			100000	/			100000	/															
		4842	10000	29	300000	5,48	10000	/	/	/	10000	/	/	/	100	4	70	460000	5,66	100	4	70	460000	5,66		
		100000	4			100000	/			100000	/															

Matrix	Strain	Inoculation level	Sample	Reference method XP ISO/TS 11059*				Alternative method: RHAPSODY								
								Spreading method				Spiral method				
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g
Vanilla dessert cream Lot 25/12 Total flora <10 ufc/g	Pseudomonas jesenii Ad1143	300	4729	10	40	360	2,56	10	36	370	2,57	/	/	/	/	/
				100	0			100	5			/	/	/	/	
			4730	10	36	360	2,56	10	30	300	2,48	/	/	/	/	/
				100	4			100	3			/	/	/	/	
			4731	10	33	330	2,52	10	24	290	2,46	/	/	/	/	/
				100	3			100	8			/	/	/	/	
		4732	10	31	290	2,46	10	40	390	2,59	/	/	/	/	/	
			100	1			100	3			/	/	/	/		
		4733	10	49	480	2,68	10	40	400	2,60	/	/	/	/	/	
			100	4			100	4			/	/	/	/		
		6000	4734	100	72	7200	3,86	100	82	8000	3,90	10	st	38	7600	3,88
				1000	7			1000	6			/	/	/	/	
			4735	100	73	7400	3,87	100	73	7200	3,86	10	st	30	6000	3,78
				1000	8			1000	6			/	/	/	/	
			4736	100	74	7600	3,88	100	82	8000	3,90	10	st	35	7000	3,85
				1000	10			1000	6			/	/	/	/	
		4737	100	94	9300	3,97	100	80	7700	3,89	10	st	45	9000	3,95	
			1000	8			1000	5			/	/	/	/		
		4738	100	81	7900	3,90	100	75	7300	3,86	10	st	45	9000	3,95	
			1000	6			1000	5			/	/	/	/		
		60000	4739	1000	44	45000	4,65	1000	68	70000	4,85	/	/	/	/	/
				10000	6			10000	9			/	/	/	/	
			4740	1000	64	63000	4,80	1000	81	81000	4,91	/	/	/	/	/
				10000	5			10000	8			/	/	/	/	
			4741	1000	70	67000	4,83	1000	56	59000	4,77	/	/	/	/	/
				10000	4			10000	9			/	/	/	/	
		4742	1000	55	55000	4,74	1000	84	85000	4,93	/	/	/	/	/	
			10000	5			10000	9			/	/	/	/		
		4743	1000	76	74000	4,87	1000	78	82000	4,91	/	/	/	/	/	
			10000	5			10000	12			/	/	/	/		
100000	4744	1000	122	120000	5,08	1000	/	/	/	10	3	62	120000	5,08		
		10000	15			10000	/	/	/	/	/					
	4745	1000	130	130000	5,11	1000	/	/	/	10	3	74	150000	5,18		
		10000	10			10000	/	/	/	/	/					
	4746	1000	130	120000	5,08	1000	/	/	/	10	3	67	130000	5,11		
		10000	7			10000	/	/	/	/	/					
4747	1000	129	130000	5,11	1000	/	/	/	10	3	65	130000	5,11			
	10000	14			10000	/	/	/	/	/						
4748	1000	140	140000	5,15	1000	/	/	/	10	3	62	120000	5,08			
	10000	13			10000	/	/	/	/	/						
600000	4749	10000	79	720000	5,86	10000	/	/	/	100	4	67	740000	5,87		
		100000	1			100000	/	/	/	/	/					
	4750	10000	60	630000	5,80	10000	/	/	/	100	4	66	730000	5,86		
		100000	9			100000	/	/	/	/	/					
	4751	10000	69	700000	5,85	10000	/	/	/	100	4	67	740000	5,87		
		100000	8			100000	/	/	/	/	/					
4752	10000	55	540000	5,73	10000	/	/	/	100	4	58	640000	5,81			
	100000	4			100000	/	/	/	/	/						
4753	10000	81	840000	5,92	10000	/	/	/	100	4	64	710000	5,85			

Matrix	Strain	Inoculation level	Sample	Reference method XP ISO/TS 11059*				Alternative method: RHAPSODY								
								Spreading method				Spiral method				
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	Reading zone	CFU/plate	CFU/g	log CFU/g
Vanilla dessert cream Lot 07/01 Total flora <10 ufc/g	Pseudomonas jesenii Ad1143	300	4754	100000	11	500	2,70	100000	/	410	2,61	/	/	/	/	/
				10	51			10	39			/	/	/	/	
			100	4	100	6	/	/	/	/						
			4755	10	34	330	2,52	10	38	360	2,56	/	/	/	/	/
				100	2			100	2			/	/	/	/	
			4756	10	39	370	2,57	10	48	460	2,66	/	/	/	/	/
		100		2	100			2	/			/	/	/		
		4757	10	23	230	2,36	10	44	440	2,64	/	/	/	/	/	
			100	2			100	4			/	/	/	/		
		4758	10	38	380	2,58	10	43	440	2,64	/	/	/	/	/	
			100	4			100	5			/	/	/	/		
		6000	4759	100	61	6200	3,79	100	53	5500	3,74	10	st	30	6000	3,78
				1000	7			1000	8			/	/	/	/	
			4760	100	69	7000	3,85	100	85	8400	3,92	10	st	39	7800	3,89
				1000	8			1000	7			/	/	/	/	
			4761	100	77	7600	3,88	100	60	5800	3,76	10	st	36	7200	3,86
				1000	7			1000	4			/	/	/	/	
		4762	100	85	8500	3,93	100	76	7500	3,88	10	st	47	9400	3,97	
			1000	9			1000	6			/	/	/	/		
		4763	100	84	8000	3,90	100	70	6800	3,83	10	st	45	9000	3,95	
			1000	4			1000	5			/	/	/	/		
		60000	4764	1000	76	73000	4,86	1000	66	67000	4,83	/	/	/	/	/
				10000	4			10000	8			/	/	/	/	
			4765	1000	65	63000	4,80	1000	110	100000	5,00	/	/	/	/	/
				10000	4			10000	3			/	/	/	/	
			4766	1000	83	83000	4,92	1000	71	70000	4,85	/	/	/	/	/
				10000	8			10000	6			/	/	/	/	
		4767	1000	88	83000	4,92	1000	66	63000	4,80	/	/	/	/	/	
			10000	3			10000	3			/	/	/	/		
		4768	1000	73	70000	4,85	1000	74	76000	4,88	/	/	/	/	/	
10000	4		10000	10			/	/			/	/				
100000	4769	1000	152	150000	5,18	1000	/	/	/	10	3	57	110000	5,04		
		10000	17			10000	/			/	/	/				
	4770	1000	124	120000	5,08	1000	/	/	/	10	3	66	130000	5,11		
		10000	11			10000	/			/	/	/				
	4771	1000	101	110000	5,04	1000	/	/	/	10	3	67	130000	5,11		
		10000	15			10000	/			/	/	/				
4772	1000	111	110000	5,04	1000	/	/	/	10	3	74	150000	5,18			
	10000	13			10000	/			/	/	/					
4773	1000	90	87000	4,94	1000	/	/	/	10	3	72	140000	5,15			
	10000	6			10000	/			/	/	/					
600000	4774	10000	78	770000	5,89	10000	/	/	/	100	4	61	680000	5,83		
		100000	7			100000	/			/	/	/				
	4775	10000	65	670000	5,83	10000	/	/	/	100	4	54	600000	5,78		
		100000	9			100000	/			/	/	/				
	4776	10000	74	740000	5,87	10000	/	/	/	100	4	57	630000	5,80		
		100000	7			100000	/			/	/	/				
4777	10000	85	840000	5,92	10000	/	/	/	100	4	59	660000	5,82			
	100000	7			100000	/			/	/	/					
4778	10000	83	800000	5,90	10000	/	/	/	100	4	63	700000	5,85			
	100000	5			100000	/			/	/	/					

Appendix 7 – Accuracy profile: summary of results

(Food) Category 1			Meat products									
(Food) Type 1			Duck mousse-Spreading 45h									
Sample Name	(Food) item	Level	Reference method result					Alternative method result				
			rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
4793-4797	Duck mousse	1	150	330	240	230	480	70	140	120	150	190
4818-4822	Duck mousse	1	260	260	260	210	160	190	230	150	200	150
4798-4802	Duck mousse	2	3900	4600	6500	7600	5200	4400	4400	3300	4100	4200
4823-4827	Duck mousse	2	6500	6400	5300	7300	6700	8000	4500	4300	5300	2500
4803-4807	Duck mousse	3	51000	56000	41000	21000	37000	35000	49000	45000	47000	46000
4828-4832	Duck mousse	3	68000	43000	65000	43000	55000	39000	59000	32000	29000	45000

(Food) Category 3			Meat products									
(Food) Type 3			Duck mousse-Spiral 45h and 72h									
Sample Name	(Food) item	Level	Reference method result					Alternative method result				
			rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
4798-4802	Duck mousse	1	3900	4600	6500	7600	5200	4200	5800	4800	5800	4000
4823-4827	Duck mousse	1	6500	6400	5300	7300	6700	5400	4000	5000	4800	5800
4808-74812	Duck mousse	2	120000	81000	55000	62000	66000	110000	87000	100000	71000	150000
4833-4837	Duck mousse	2	86000	76000	100000	74000	120000	130000	110000	99000	110000	110000
4813-4817	Duck mousse	3	530000	720000	710000	610000	690000	710000	910000	580000	780000	710000
4838-4842	Duck mousse	3	550000	320000	420000	320000	300000	540000	540000	470000	430000	460000

(Food) Category 7			Milk products									
(Food) Type 7			Vanilla dessert cream-Spreading 45h									
Sample Name	(Food) item	Level	Reference method result					Alternative method result				
			rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
4729-4733	Vanilla dessert cream	1	360	360	330	290	480	370	300	290	390	400
4754-4758	Vanilla dessert cream	1	500	330	370	230	380	410	360	460	440	440
4734-4738	Vanilla dessert cream	2	7200	7400	7600	9300	7900	8000	7200	8000	7700	7300
4759-4763	Vanilla dessert cream	2	6200	7000	7600	8500	8000	5500	8400	5800	7500	6800
4739-4743	Vanilla dessert cream	3	73000	63000	83000	83000	70000	67000	100000	70000	63000	76000
4764-4768	Vanilla dessert cream	3	73000	63000	83000	83000	70000	67000	100000	70000	63000	76000

(Food) Category 2			Meat products									
(Food) Type 2			Duck mousse-Spreading 72h									
Sample Name	(Food) item	Level	Reference method result					Alternative method result				
			rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
4793-4797	Duck mousse	1	150	330	240	230	480	210	260	250	260	310
4818-4822	Duck mousse	1	260	260	260	210	160	260	230	170	200	160
4798-4802	Duck mousse	2	3900	4600	6500	7600	5200	5000	4500	4500	4800	4700
4823-4827	Duck mousse	2	6500	6400	5300	7300	6700	8300	4500	4400	5500	2500
4803-4807	Duck mousse	3	51000	56000	41000	21000	37000	36000	53000	45000	47000	51000
4828-4832	Duck mousse	3	68000	43000	65000	43000	55000	39000	61000	32000	31000	49000

(Food) Category 8			Milk products									
(Food) Type 8			Vanilla dessert cream-Spiral 45h									
Sample Name	(Food) item	Level	Reference method result					Alternative method result				
			rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
4734-4738	Vanilla dessert cream	1	7200	7400	7600	9300	7900	7600	6000	7000	9000	9000
4759-4763	Vanilla dessert cream	1	6200	7000	7600	8500	8000	6000	7800	7200	9400	9000
4744-4748	Vanilla dessert cream	2	120000	130000	120000	130000	140000	120000	150000	130000	130000	120000
4769-4773	Vanilla dessert cream	2	150000	120000	110000	110000	87000	110000	130000	130000	150000	140000
4749-4753	Vanilla dessert cream	3	720000	630000	700000	540000	840000	740000	730000	740000	64000	710000
4774-4778	Vanilla dessert cream	3	770000	670000	740000	840000	800000	680000	600000	630000	660000	700000

Appendix 8 – Inclusivity/Exclusivity: raw results (initial validation - 2015)

INCLUSIVITY								
N°	Strain		Reference	Origin	CFU / plate			
					PCA	RHAPSODY	ISO 13720 (CFC)	ISO 11059 (PPA)
1	<i>Pseudomonas</i>	<i>jessenii</i>	Ad1143	Pasteurised milk	15	22	20	23
2	<i>Pseudomonas</i>	<i>aeruginosa</i>	20	Raw milk	24	36	37	33
3	<i>Pseudomonas</i>	<i>aeruginosa</i>	Ad1531	River water	63	76	68	69
4	<i>Pseudomonas</i>	<i>aeruginosa</i>	Ad1536	/	67	48	57	60
5	<i>Pseudomonas</i>	<i>aeruginosa</i>	Ad1553	Environment water	67	67	65	73
6	<i>Pseudomonas</i>	<i>aeruginosa</i>	Ad1558	Water	33	58	56	53
7	<i>Pseudomonas</i>	<i>aeruginosa</i>	Ad1884	Soil wipe	36	47	59	65
8	<i>Pseudomonas</i>	<i>fluorescens</i>	J2	Spoilage ham	37	55	16	19
9	<i>Pseudomonas</i>	<i>fluorescens</i>	7	Unpasteurised egg cast	73	50	56	59
10	<i>Pseudomonas</i>	<i>fluorescens</i>	16	Unpasteurised egg cast	30	40	25	29
11	<i>Pseudomonas</i>	<i>fluorescens</i>	21	/	22	48	27	37
12	<i>Pseudomonas</i>	<i>fluorescens</i>	Ad1246	Salmon	42	44	46	50
13	<i>Pseudomonas</i>	<i>fluorescens</i>	Ad1515	Egg adhesion on circuit section	39	37	51	43
14	<i>Pseudomonas</i>	<i>fluorescens</i>	Ad1691	Salmon	15	17(pale blue at 45h)	14	17
15	<i>Pseudomonas</i>	<i>fragi</i>	Ad1327	Eggshell	23	13(pale at 45h)	16	24
16	<i>Pseudomonas</i>	<i>otitidis</i>	Ad1880	Turkey skin	31	0	43	39
17	<i>Pseudomonas</i>		Ad2261		44	42 (pale blue and small at 45h)	57	69
18	<i>Pseudomonas</i>	<i>pseudo alcaligenes</i>	Ad1592	Environment water	43	33	24	30
19	<i>Pseudomonas</i>	<i>putida</i>	3	/	22	19 (pale blue at 45h)	20	24

INCLUSIVITY								
N°	Strain		Reference	Origin	CFU / plate			
					PCA	RHAPSODY	ISO 13720 (CFC)	ISO 11059 (PPA)
20	<i>Pseudomonas</i>	<i>putida</i>	J7	Tainted ham	140/17	89/8	>150/38	>150/25
21	<i>Pseudomonas</i>	<i>putida</i>	4	Poultry	85/5	233/20	204/19	255/20
22	<i>Pseudomonas</i>	<i>putida</i>	5	Unpasteurised egg yolk	119/10	227/27 (pale blue at 45h)	148/11	122/12
23	<i>Pseudomonas</i>	<i>sp</i>	Ad2263	Quail	117	130	146	148
24	<i>Pseudomonas</i>	<i>putida</i>	Ad1331	Eggshell	21	30	32	33
25	<i>Pseudomonas</i>	<i>putida</i>	Ad1539	Soil	50	64	52	68
26	<i>Pseudomonas</i>	<i>putida</i>	Ad1591	Environment water	103	67 (pale blue and small at 45h)	152	165
27	<i>Pseudomonas</i>	<i>sp</i>	Ad2005	Process water	147/13	0/0	122/12	127/17
28	<i>Pseudomonas</i>	<i>spp</i>	Ad1715	Egg castings	26	40	47	43
29	<i>Pseudomonas</i>	<i>stutzeri</i>	Ad1593	Environment water	33	37	31	35
30	<i>Pseudomonas</i>	<i>veronii</i>	Ad1588	Industrial environment	42	25	35	34
31	<i>Pseudomonas</i>	<i>fragi</i>	Ad2245	Minced steak	26	15 (pale blue at 45h)	27	20
32	<i>Pseudomonas</i>	<i>migulae</i>	Ad2246	Beef tartar	65	81	98	117
33	<i>Pseudomonas</i>	<i>psychrophila</i>	Ad2248	Leg of lamb	37	45	38	43
34	<i>Pseudomonas</i>	<i>migulae</i>	Ad2247	Minced steak	81	68 (blue μ colonies at 45h)	106	81
35	<i>Pseudomonas</i>	<i>fluorescens</i>	Ad2249	Raw milk	13/120	28/204	18/196	18/173
36	<i>Pseudomonas</i>	<i>sp</i>	Ad2250	Chipolatas	26	27	32	23
37	<i>Pseudomonas</i>	<i>sp</i>	Ad2252	Veal escalope	19	13	24	16
38	<i>Pseudomonas</i>	<i>groupe fluorescens</i>	Ad2253	Pork chop	54	33	49	31
39	<i>Pseudomonas</i>	<i>groupe fluorescens</i>	Ad2257	Chicken fillet	131	134	149	139

INCLUSIVITY								
N°	Strain		Reference	Origin	CFU / plate			
					PCA	RHAPSODY	ISO 13720 (CFC)	ISO 11059 (PPA)
40	<i>Pseudomonas</i>	<i>groupe fluorescens</i>	Ad2259	Forestry terrine	123	132 (very pale blue at45h)	137	112
41	<i>Pseudomonas</i>	<i>sp</i>	Ad2267	Pork pâté with parsley	47	38	22	41
42	<i>Pseudomonas</i>	<i>fluorescens</i>	Ad2265	Leg of lamb	29	21	30	28
43	<i>Pseudomonas</i>	<i>sp</i>	Ad2276	Raw milk cheese	48	68	82	63
44	<i>Pseudomonas</i>	<i>psychrophila</i>	Ad2264	Chantilly cream	118	144	144	157
45	<i>Pseudomonas</i>	<i>sp</i>	Ad2270	Tiramisu	19	29	41	30
46	<i>Pseudomonas</i>	<i>sp</i>	Ad2271	Ice cream	31	37	34	24
47	<i>Pseudomonas</i>	<i>sp</i>	Ad2273	Pasteurised milk	127	87(white μ colonies at 45h, blue at 72h)	115	103
48	<i>Pseudomonas</i>	<i>sp</i>	Ad2272	Cheese made from pasteurised milk	13	23	17	18
49	<i>Pseudomonas</i>	<i>sp</i>	Ad2268	Saint Nectaire cheese	128	102	128	133
50	<i>Pseudomonas</i>	<i>sp</i>	Ad2269	Chantilly cream	107	134	102	147

EXCLUSIVITY												
N°	Strain		Reference	Origin	PCA		RHAPSODY (45h/72h)		ISO 13720 (CFC)		ISO 11059 (PPA)	
					Dilution	cfu/plate	Dilution	cfu/plate	Dilution	cfu/plate	Dilution	cfu/plate
1	<i>Acinetobacter</i>	<i>johnsonii</i>	Ad1317	Eggshells	-6	72	-5	0/0	-5	0	-5	0
2	<i>Aerococcus</i>	<i>viridens</i>	Ad142	Plants	-5	39	-5	0/0	-5	0	-5	0
3	<i>Aeromonas</i>	<i>punctata</i>	Ad1329	Eggshells	-6	114	-5	0/0	-5	0	-5	0
4	<i>Brochothrix</i>	<i>thermosphacta</i>	Ad1702	Raw salmon	-6	31	-5	0/0	-5	0	-5	0
5	<i>Burkholderia</i>	<i>cepacia</i>	Ad1541	Environment	-7	84	-5	0/0	-5	0	-5	0
6	<i>Chryseobacterium</i>	<i>ureilyticum</i>	Ad1340	Eggshells	-7	40	-5	0/0	-5	0	-6	142 (ox +-BCP -)
7	<i>Flavobacterium</i>	<i>hydratis</i>	Ad1323	Eggshell	-7	34	-5	0/0	-5	0	-7	24 (ox + / BCP -)
8	<i>Gluconobacter</i>	<i>cerinus</i>	Ad374	Supplement	-7	38	-5	0/0	-5	0	-5	0
9	<i>Ochrobactrum</i>	<i>pseudintermedius</i>	Ad1057	Turkey skin	-6	56	-3	0/0	-3	0	-6	51 (ox + / BCP -)
10	<i>Ochrobactrum</i>	<i>sp</i>	Ad1916	Chicken fillet skinless white meat	-7	57	-5	0/0	-7	46 (ox +)	-7	64 (ox -)
11	<i>Okibacterium</i>	<i>fritillariae</i>	Ad1117	Macaroni	-7	30	-4	96 (cream colonies)/ 96 (pale green)	-4	0	-4	0
12	<i>Pandoraea</i>	<i>sp</i>	Ad1882	Slaughterhouse turkey	-6	40	-2	76 (blue μ colonies)/ 102 (blue μ colonies)	-2	8 (μ colonies Ox -)	-6	40 (ox -)
13	<i>Moraxella</i>		Ad423	Chicken	-5	84	-5	0/0	-5	0	-5	0
14	<i>Photobacterium</i>	<i>phosphoreum</i>	Ad1706	Salmon	-7	50	-5	0/0	-5	0	-5	0
15	<i>Plesiomonas</i>	<i>shigelloïdes</i>	Ad673	Fish	-6	58	-5	0/0	-5	0	-5	0
16	<i>Psychrobacter</i>	<i>psychrophilus</i>	Ad1343	Eggshell	-6	62	-5	0/0	-5	0	-5	0
17	<i>Ralstonia</i>	<i>mannitolilytica</i>	Ad1059	Turkey neck skin	-6	132	-5	0/0	-5	0	-5	0

EXCLUSIVITY												
N°	Strain		Reference	Origin	PCA		RHAPSODY (45h/72h)		ISO 13720 (CFC)		ISO 11059 (PPA)	
					Dilution	cfu/plate	Dilution	cfu/plate	Dilution	cfu/plate	Dilution	cfu/plate
18	<i>Shewanella</i>	<i>baltica</i>	Ad1700	Salmon	-6	54	-5	0/0	-5	0	-5	0
19	<i>Shewanella</i>	<i>putrefaciens</i>	EN 15/34	Trout	-7	113	-5	0/0	-5	0	-5	0
20	<i>Xanthomonas</i>	<i>maltophilia</i>	11.2	Plants	-7	73	-5	0/0	-5	0	-5	0
21	<i>Comamonas</i>	<i>aquatica</i>	Ad 1590	Environment	-6	105	-5	0/0	-5	0	-5	0
22	<i>Aeromonas</i>	<i>salmonicida</i>	Ad 1319	Eggshell	-7	43	-5	0/0	-5	0	-5	0
23	<i>Enterobacter</i>	<i>hormaechei</i>	Ad 990	Butter	-7	99	-5	0/0	-5	0	-5	54 (ox -)
24	<i>Cronobacter</i>	<i>sakazakii</i>	Ad 952	Dairy product	-7	60	-5	0/0	-5	0	-5	0
25	<i>Citrobacter</i>	<i>freundii</i>	Ad 1326	Eggshell	-7	48	-5	0/0	-5	0	-5	0
26	<i>Xanthomonas</i>	<i>maltophilia</i>	60.77T (ATCC 1363)	Clinic	-7	60	-5	0/0	-5	0	-5	0
27	<i>Shewanella</i>	<i>sp</i>	Ad 1704	Shrimp	-6	36	-5	0/0	-5	0	-5	0
28	<i>Serratia</i>	<i>proteomaculans</i>	Ad 1701	Salmon	-7	45	-5	0/0	-5	0	-6	73 (ox -)
29	<i>Acinetobacter</i>	<i>baumannii</i>	Ad 1090	Haemoglobin	-7	67	-6	0/0	-6	153 (μcolonies Ox +)	-6	137 (ox -)
30	<i>Burkholderia</i>	<i>vietnamiensis</i>	Ad 1538	Soil	-6	58	-3	0/0	-3	0	-3	0

**Appendix 9 – Raw results from the expert laboratory
and collaborating laboratories (initial validation –2015)**

Laboratory	Sample	Reference method ISO 13720 [♦]					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)
ADRIA Aerobic mesophilic flora 7,7.10 ⁵ /g	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	106	106	1000	3,00	100	17	1600	3,20
		100	7	7			1000	1		
	7	100	15	15	1400	3,15	100	17	1500	3,18
		1000	0	0			1000	0		
	2	100	102	102	9800	3,99	100	94	9500	3,98
		1000	6	6			1000	10		
	5	100	136	136	13000	4,11	100	130	13000	4,11
		1000	12	12			1000	14		
	1	1000	112	112	120000	5,08	1000	126	120000	5,08
		10000	17	17			10000	10		
	6	1000	109	109	100000	5,00	1000	102	99000	5,00
		10000	6	6			10000	7		

Laboratory	Sample	Reference method ISO XP/TS 11059 [♦]					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)
ADRIA Aerobic mesophilic flora 7,7.10 ⁵ /g	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	100	18	18	1700	3,23	100	17	1600	3,20
		1000	1	1			1000	1		
	7	100	11	11	1100	3,04	100	17	1500	3,18
		1000	1	1			1000	0		
	2	100	107	107	10000	4,00	100	94	9500	3,98
		1000	8	8			1000	10		
	5	100	135	135	14000	4,15	100	130	13000	4,11
		1000	14	14			1000	14		
	1	1000	109	109	110000	5,04	1000	126	120000	5,08
		10000	13	13			10000	10		
	6	1000	102	102	99000	5,00	1000	102	99000	5,00
		10000	7	7			10000	7		

♦ Essai effectué sous le couvert de l'accréditation

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)	
A	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	100	12	12	1600	3,20	100	13	1300	3,11	
		1000	6	6			1000	1			
	7	100	11	11	1300	3,11	100	14	1300	3,11	
		1000	3	3			1000	0			
	2	100	80	80	7800	3,89	100	100	10000	4,00	
		1000	6	6			1000	12			
	5	100	63	63	7500	3,88	100	113	11000	4,04	
		1000	20	20			1000	11			
	1	1000	107 (diffuses colonies)	107	100000	5,00	10000	14	130000	5,11	
		10000	7	7			100000	0			
6	10000	22	22	200000	5,30	1000	112	120000	5,08		
	100000	0	0			10000	18				
B	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	47	47	430	2,63	10	91	850	2,93	
		100	0	0			100	2			
	7	10	44	44	400	2,60	10	91	850	2,93	
		100	0	0			100	2			
	2	100	25	25	2500	3,40	100	20	2100	3,32	
		1000	2	2			1000	3			
	5	100	40	40	3600	3,56	100	10	910	2,96	
		1000	0	0			1000	0			
	1	1000	29	29	28000	4,45	100	150	15000	4,18	
		10000	2	2			1000	11			
6	100	120	120	13000	4,11	100	93	10000	4,00		
	1000	22	22			1000	17				

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/confirmed	CFU/g	log (CFU/g)	Dilution	CFU/plate	CFU/g	log (CFU/g)
C	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	70	70	700	2,85	100	20	2000	3,30
		100	7	7			1000	2		
	7	10	38	38	410	2,61	100	14	1600	3,20
		100	7	7			1000	4		
	2	100	75	75	7900	3,90	100	123	12000	4,08
		1000	12	12			1000	12		
	5	100	63	63	6200	3,79	1000	11	11000	4,04
		1000	5	5			10000	1		
	1	1000	96	96	99000	5,00	1000	135	140000	5,15
		10000	13	13			10000	22		
6	1000	110	110	120000	5,08	1000	150	150000	5,18	
	10000	18	18			10000	18			
D	3	10	0		<10	<1,00	10	0	<10	<1,00
		100	0				100	0		
	8	10	0		<10	<1,00	10	0	<10	<1,00
		100	0				100	0		
	4	10	107	107	1000	3,00	10	149	1400	3,15
		100	8	8			100	9		
	7	10	94	94	940	2,97	10	148	1500	3,18
		100	9	9			100	12		
	2	100	117	117	12000	4,08	100	124	13000	4,11
		1000	13	13			1000	19		
	5	100	86	86	9100	3,96	100	117	12000	4,08
		1000	14	14			1000	19		
	1	1000	133	133	130000	5,11	1000	144	140000	5,15
		10000	9	9			10000	11		
6	10000	15	15	150000	5,18	10000	19	190000	5,28	
	100000	2	2			100000	2			
E	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	100	27	27	2500	3,40	10	94	930	2,97
		1000	0	0			100	8		
	7	100	Impossible reading	/	7000	3,85 Ne	10	131	1200	3,08
		1000	7	7			100	6		
	2	1000	17	17	15000	4,18	100	85	8200	3,91
		10000	0	0			1000	5		
	5	1000	12	12	11000	4,04	100	75	7500	3,88
		10000	0	0			1000	7		
	1	10000	34	34	330000	5,52	1000	89	85000	4,93
		100000	2	2			10000	5		
6	1000	115	115	110000	5,04	1000	90	88000	4,94	
	10000	4	4			10000	7			

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)
F Aerobic mesophilic flora 1,1.10 ⁴ /g	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	117	117	1200	3,08	100	15	1500	3,18
		100	10	10			1000	1		
	7	100	44	44	4100	3,61	10	72	670	2,83
		1000	1	1			100	2		
	2	100	63	63	6600	3,82	100	66	6800	3,83
		1000	10	10			1000	9		
	5	100	94	94	9400	3,97	100	65	6500	3,81
		1000	9	9			1000	6		
	1	1000	89	89	85000	4,93	1000	86	85000	4,93
		10000	4	4			10000	8		
	6	1000	121	121	130000	5,11	1000	74	74000	4,87
10000		18	18	10000			7			

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	Dilution	CFU/plate	CFU/ plate	CFU/g	log (CFU/g)	
G	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	104	104	1100	3,04	10	135	1400	3,15	
		100	20	20			100	17			
	7	10	92	92	930	2,97	10	118	1200	3,08	
		100	10	10			100	18			
	2	100	107	107	11000	4,04	100	73	7400	3,87	
		1000	17	17			1000	8			
	5	1000	17	17	18000	4,26	100	108	11000	4,04	
		10000	3	3			1000	9			
	1	10000	27	27	270000	5,43	1000	136	140000	5,15	
		100000	3	3			10000	18			
6	1000	97	97	100000	5,00	1000	79	81000	4,91		
	10000	14	14			10000	10				
H	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	/			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	/			
	4	10	52	52	520	2,72	10	110	1100	3,04	
		100	/	/			100	/			
	7	10	51	51	510	2,71	1000	10	9100	3,96	
		100	/	/			10000	0			
	2	1000	15	15	16000	4,20	1000	18	18000	4,26	
		10000	3	3			10000	/			
	5	100	/	/	8000	3,90 Ne	1000	15	15000	4,18	
		1000	8	8			10000	2			
	1	1000	100	100	100000	5,00	1000	111	120000	5,08	
		10000	14	14			10000	17			
6	1000	109	109	110000	5,04	1000	131	130000	5,11		
	10000	10	10			10000	12				

Laboratory	Sample	Reference method ISO 13720				RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/confirmed	CFU/g	Dilution	CFU/plate	CFU/plate	CFU/g	log (CFU/g)
I	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	INC	0	<10	<1,00	10	0	<10	<1,00
		100	INC	0			100	0		
	4	10	160	160	1500	3,18	100	18	1600	3,20
		100	9	9			1000	0		
	7	10	151	151	1500	3,18	100	16	1500	3,18
		100	16	16			1000	0		
	2	100	106	106	11000	4,04	100	77	7800	3,89
		1000	13	13			1000	9		
	5	100	95	95	9500	3,98	100	108	11000	4,04
		1000	10	10			1000	12		
	1	1000	110	110	120000	5,08	1000	97	100000	5,00
		10000	19	19			10000	16		
6	1000	154	154	150000	5,18	1000	121	130000	5,11	
	10000	16	16			10000	17			
J	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	69	69	720	2,86	10	133	1300	3,11
		100	10	10			100	6		
	7	10	71	71	730	2,86	100	17	1700	3,23
		100	9	9			1000	2		
	2	100	58	58	6300	3,80	100	96	9600	3,98
		1000	11	11			1000	10		
	5	100	52	52	5500	3,74	100	85	8500	3,93
		1000	9	9			1000	8		
	1	1000	71	71	74000	4,87	1000	74	76000	4,88
		10000	10	10			10000	10		
6	1000	80	80	77000	4,89	1000	89	85000	4,93	
	10000	5	5			10000	5			

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	Dilution	CFU/plate	CFU/ plate	CFU/g	log (CFU/g)	
K	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	42	42	530	2,72	10	64	670	2,83	
		100	16	16			100	10			
	7	10	29	29	260	2,41	10	67	680	2,83	
		100	0	0			100	8			
	2	100	63	63	7100	3,85	100	65	7500	3,88	
		1000	15	15			1000	17			
	5	100	62	62	7000	3,85	100	63	7100	3,85	
		1000	15	15			1000	15			
	1	1000	103	103	110000	5,04	1000	74	88000	4,94	
		10000	18	18			10000	23			
6	1000	77	77	82000	4,91	1000	140	140000	5,15		
	10000	13	13			10000	16				
L	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	/	/			100	/			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	/	/			100	/			
	4	10	62	62	620	2,79	10	89	890	2,95	
		100	/	/			100	/			
	7	10	23	23	230	2,36	10	88	880	2,94	
		100	/	/			100	/			
	2	100	/	/	10000	4,00	100	/	12000	4,08	
		1000	10	10			1000	12			
	5	1000	104	104	97000	4,99	100	/	6000	3,78	
		10000	3	3			1000	6			
	1	1000	10	10	9000	3,95	1000	72	81000	4,91	
		10000	0	0			10000	17			
6	1000	128	128	140000	5,15	1000	86	85000	4,93		
	10000	22	22			10000	8				

Laboratory	Sample	Reference method ISO 13720					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	Dilution	CFU/plate	CFU/ plate	CFU/g	log (CFU/g)	
M	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	156	156	1500	3,18	100	14	1500	3,18	
		100	14	14			1000	2			
	7	10	107	107	1100	3,04	100	20	2000	3,30	
		100	13	13			1000	2			
	2	1000	21	21	21000	4,32	100	103	10000	4,00	
		10000	2	2			1000	8			
	5	100	145	145	15000	4,18	100	127	12000	4,08	
		1000	16	16			1000	8			
	1	10000	23	23	230000	5,36	1000	142	150000	5,18	
		100000	2	2			10000	18			
6	10000	40	40	430000	5,63	10000	19	180000	5,26		
	100000	7	7			100000	1				
N	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	100	11	11	1200	3,08	100	18	1800	3,26	
		1000	2	2			1000	2			
	7	100	10	10	910	2,96	100	19	1800	3,26	
		1000	0	0			1000	1			
	2	1000	14	14	15000	4,18	100	136	14000	4,15	
		10000	2	2			1000	15			
	5	100	>150	>150	9000	3,95 Ne	1000	21	22000	4,34	
		1000	9	9			10000	3			
	1	1000	90	90	87000	4,94	1000	150	150000	5,18	
		10000	6	6			10000	13			
6	1000	132	132	130000	5,11	1000	149	140000	5,15		
	10000	14	14			10000	10				

Laboratory	Sample	Reference method ISO 13720				RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	Dilution	CFU/plate	CFU/ plate	CFU/g	log (CFU/g)
O	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	100	14	14	1300	3,11	100	13	1200	3,08
		1000	0	0			1000	0		
	7	10	149	149	1400	3,15	100	20	1900	3,28
		100	12	12			1000	1		
	2	100	125	125	12000	4,08	100	128	13000	4,11
		1000	6	6			1000	13		
	5	100	137	137	15000	4,18	100	128	13000	4,11
		1000	24	24			1000	13		
	1	10000	23	23	230000	5,36	10000	12	120000	5,08
		100000	2	2			100000	1		
6	1000	111	111	110000	5,04	1000	127	130000	5,11	
	10000	10	10			10000	11			
P	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	89	89	930	2,97	100	13	1400	3,15
		100	13	13			1000	2		
	7	10	106	106	1100	3,04	100	20	1800	3,26
		100	19	19			1000	0		
	2	100	107	107	11000	4,04	100	82	8000	3,90
		1000	9	9			1000	6		
	5	100	113	113	11000	4,04	100	106	11000	4,04
		1000	8	8			1000	14		
	1	1000	148	148	150000	5,18	10000	20	210000	5,32
		10000	16	16			100000	3		
6	1000	150	150	150000	5,18	1000	130	130000	5,11	
	10000	12	12			10000	12			

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/confirmed	CFU/g	log (CFU/g)	Dilution	CFU/plate	CFU/g	log (CFU/g)	
A	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	100	13	13	1300	3,11	100	13	1300	3,11	
		1000	1	1			1000	1			
	7	100	16	16	1700	3,23	100	14	1300	3,11	
		1000	3	3			1000	0			
	2	100	84	84	8100	3,91	100	100	10000	4,00	
		1000	5	5			1000	12			
	5	100	130	130	12000	4,08	100	113	11000	4,04	
		1000	5	5			1000	11			
	1	1000	112	112	110000	5,04	10000	14	130000	5,11	
		10000	10	10			10000	0			
6	1000	106	106	100000	5,00	1000	112	120000	5,08		
	10000	9	9			10000	18				
B	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	99	99	910	2,96	10	91	850	2,93	
		100	1	1			100	2			
	7	10	82	82	750	2,88	10	91	850	2,93	
		100	0	0			100	2			
	2	100	18	18	1900	3,28	100	20	2100	3,32	
		1000	3	3			1000	3			
	5	100	18	18	1600	3,20	100	10	910	2,96	
		1000	0	0			1000	0			
	1	100	53	53	6300	3,80	100	150	15000	4,18	
		1000	16	16			1000	11			
6	100	131	131	13000	4,11	100	93	10000	4,00		
	1000	13	13			1000	17				

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/confirmed	CFU/g	log (CFU/g)	Dilution	CFU/plate	CFU/g	log (CFU/g)
C	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	100	13	13	1300	3,11	100	20	2000	3,30
		1000	1	1			1000	2		
	7	100	16	16	1700	3,23	100	14	1600	3,20
		1000	3	3			1000	4		
	2	100	109	109	11000	4,04	100	123	12000	4,08
		1000	9	9			1000	12		
	5	100	90	90	9500	3,98	1000	11	11000	4,04
		1000	15	15			10000	1		
	1	1000	115	115	120000	5,08	1000	135	140000	5,15
		10000	19	19			10000	22		
	6	1000	116	116	120000	5,08	1000	150	150000	5,18
		10000	16	16			10000	18		
D	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	107	107	1100	3,04	10	149	1400	3,15
		100	11	11			100	9		
	7	10	110	110	1200	3,08	10	148	1500	3,18
		100	22	22			100	12		
	2	100	95	95	9200	3,96	100	124	13000	4,11
		1000	6	6			1000	19		
	5	100	94	94	9600	3,98	100	117	12000	4,08
		1000	12	12			1000	19		
	1	1000	100	100	110000	5,04	1000	144	140000	5,15
		10000	21	21			10000	11		
	6	10000	20	20	180000	5,26	10000	19	190000	5,28
		100000	0	0			100000	2		
E	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	135	135	1300	3,11	10	94	930	2,97
		100	4	4			100	8		
	7	10	118	118	1200	3,08	10	131	1200	3,08
		100	9	9			100	6		
	2	100	75	75	7500	3,88	100	85	8200	3,91
		1000	8	8			1000	5		
	5	100	74	74	7200	3,86	100	75	7500	3,88
		1000	5	5			1000	7		
	1	1000	79	79	75000	4,88	1000	89	85000	4,93
		10000	4	4			10000	5		
	6	1000	107	107	110000	5,04	1000	90	88000	4,94
		10000	9	9			10000	7		

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/confirmed	CFU/g	log (CFU/g)	Dilution	CFU/plate	CFU/g	log (CFU/g)
F	3	10	0		<10	<1,00	10	0	<10	<1,00
		100	0				100	0		
	8	10	0		<10	<1,00	10	0	<10	<1,00
		100	0				100	0		
	4	10	114	114	1200	3,08	100	15	1500	3,18
		100	13	13			1000	1		
	7	10	98	98	960	2,98	10	72	670	2,83
		100	7	7			100	2		
	2	100	75	75	8000	3,90	100	66	6800	3,83
		1000	13	13			1000	9		
	5	100	92	92	9100	3,96	100	65	6500	3,81
		1000	8	8			1000	6		
	1	1000	65	65	69000	4,84	1000	86	85000	4,93
		10000	11	11			10000	8		
6	1000	108	108	110000	5,04	1000	74	74000	4,87	
	10000	12	12			10000	7			
G	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	127	127	1300	3,11	10	135	1400	3,15
		100	12	12			100	17		
	7	10	108	108	1100	3,04	10	118	1200	3,08
		100	15	15			100	18		
	2	100	73	73	7300	3,86	100	73	7400	3,87
		1000	7	7			1000	8		
	5	100	139	139	14000	4,15	100	108	11000	4,04
		1000	13	13			1000	9		
	1	10000	9	9	90000	4,95	1000	136	140000	5,15
		100000	2	2			10000	18		
6	1000	90	90	90000	4,95	1000	79	81000	4,91	
	10000	9	9			10000	10			
H	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	/	/			100	/		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	/	/			100	/		
	4	10	94	94	940	2,97	10	110	1100	3,04
		100	/	/			100	/		
	7	10	89	89	890	2,95	1000	10	9100	3,96
		100	/	/			10000	0		
	2	1000	17	17	17000	4,23	1000	18	18000	4,26
		10000	2	2			10000	/		
	5	1000	20	20	19000	4,28	1000	15	15000	4,18
		10000	1	1			10000	2		
	1	1000	120	120	120000	5,08	1000	111	120000	5,08
		10000	14	14			10000	17		
6	1000	80	80	82000	4,91	1000	131	130000	5,11	
	10000	10	10			10000	12			

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)
I Aerobic mesophilic flora 2,9.10 ⁶ /g	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	126	126	1300	3,11	100	18	1600	3,20
		100	17	17			1000	0		
	7	10	133	133	1300	3,11	100	16	1500	3,18
		100	14	14			1000	0		
	2	100	53	53	6100	3,79	100	77	7800	3,89
		1000	14	14			1000	9		
	5	100	113	113	12000	4,08	100	108	11000	4,04
		1000	18	18			1000	12		
	1	1000	111	111	110000	5,04	1000	97	100000	5,00
		10000	13	13			10000	16		
6	1000	105	105	110000	5,04	1000	121	130000	5,11	
	10000	14	14			10000	17			

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)	
J	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	150	150	1500	3,18	10	133	1300	3,11	
		100	19	19			100	6			
	7	10	114	114	1200	3,08	100	17	1700	3,23	
		100	17	17			1000	2			
	2	100	101	101	10000	4,00	100	96	9600	3,98	
		1000	10	10			1000	10			
	5	100	61	61	6700	3,83	100	85	8500	3,93	
		1000	13	13			1000	8			
	1	1000	110	110	110000	5,04	1000	74	76000	4,88	
		10000	9	9			10000	10			
	6	1000	72	72	80000	4,90	1000	89	85000	4,93	
		10000	16	16			10000	5			
K	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	63	63	570	2,76	10	64	670	2,83	
		100	0	0			100	10			
	7	10	57	57	520	2,72	10	67	680	2,83	
		100	0	0			100	8			
	2	100	57	57	6500	3,81	100	65	7500	3,88	
		1000	15	15			1000	17			
	5	100	40	40	4400	3,64	100	63	7100	3,85	
		1000	8	8			1000	15			
	1	1000	54	54	65000	4,81	1000	74	88000	4,94	
		10000	17	17			10000	23			
	6	1000	60	60	64000	4,81	1000	140	140000	5,15	
		10000	10	10			10000	16			
L	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	/	/			100	/			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	/	/			100	/			
	4	10	112	112	1100	3,04	10	89	890	2,95	
		100	/	/			100	/			
	7	10	63	63	630	2,80	10	88	880	2,94	
		100	/	/			100	/			
	2	100	/	/	5000	3,70 Ne	100	/	12000	4,08	
		1000	5	5			1000	12			
	5	100	/	/	10000	4,00	100	/	6000	3,78 Ne	
		1000	10	10			1000	6			
	1	1000	132	132	130000	5,11	1000	72	81000	4,91	
		10000	6	6			10000	17			
	6	1000	59	59	57000	4,76	1000	86	85000	4,93	
		10000	4	4			10000	8			

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method				
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)	
M	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	10	126	126	1200	3,08	100	14	1500	3,18	
		100	10	10			1000	2			
	7	10	113	113	1100	3,04	100	20	2000	3,30	
		100	7	7			1000	2			
	2	100	107	107	11000	4,04	100	103	10000	4,00	
		1000	18	18			1000	8			
	5	100	112	112	11000	4,04	100	127	12000	4,08	
		1000	11	11			1000	8			
	1	1000	143	143	140000	5,15	1000	142	150000	5,18	
		10000	16	16			10000	18			
	6	10000	22	22	240000	5,38	10000	19	180000	5,26	
100000		4	4	100000			1				
N	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	100	15	15	1400	3,15	100	18	1800	3,26	
		1000	0	0			1000	2			
	7	100	17	17	1700	3,23	100	19	1800	3,26	
		1000	2	2			1000	1			
	2	100	146	146	15000	4,18	100	136	14000	4,15	
		1000	14	14			1000	15			
	5	100	127	127	13000	4,11	1000	21	22000	4,34	
		1000	13	13			10000	3			
	1	1000	146	146	140000	5,15	1000	150	150000	5,18	
		10000	12	12			10000	13			
	6	1000	99	99	98000	4,99	1000	149	140000	5,15	
10000		9	9	10000			10				
O	3	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	8	10	0	0	<10	<1,00	10	0	<10	<1,00	
		100	0	0			100	0			
	4	100	13	13	1200	3,08	100	13	1200	3,08	
		1000	0	0			1000	0			
	7	10	153	153	1500	3,18	100	20	1900	3,28	
		1000	17	17			1000	1			
	2	100	118	118	12000	4,08	100	128	13000	4,11	
		1000	9	9			1000	13			
	5	100	121	121	12000	4,08	100	128	13000	4,11	
		1000	13	13			1000	13			
	1	10000	22	22	220000	5,34	10000	12	120000	5,08	
		100000	2	2			100000	1			
	6	1000	131	131	130000	5,11	1000	127	130000	5,11	
10000		15	15	10000			11				

Laboratory	Sample	Reference method ISO XP/TS 11059					RHAPSODY Agar method			
		Dilution	CFU/plate	CFU/ confirmed	CFU/g	log (CFU/g)	Dilution	CFU/ plate	CFU/g	log (CFU/g)
P Aerobic mesophilic flora 2,0.10 ⁶ /g	3	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	8	10	0	0	<10	<1,00	10	0	<10	<1,00
		100	0	0			100	0		
	4	10	116	116	1200	3,08	100	13	1400	3,15
		100	15	15			1000	2		
	7	10	143	143	1400	3,15	100	20	1800	3,26
		100	9	9			1000	0		
	2	100	126	126	13000	4,11	100	82	8000	3,90
		1000	12	12			1000	6		
	5	100	137	137	13000	4,11	100	106	11000	4,04
		1000	10	10			1000	14		
	1	10000	30	30	300000	5,48	10000	20	210000	5,32
		100000	3	3			100000	3		
	6	1000	134	134	140000	5,15	1000	130	130000	5,11
		10000	19	19			10000	12		