ADRIA FOOD EXPERTISE

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NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

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

3M™ Petrifilm™ Coliform Count (CC) Plate
(Certificate number: 3M 01/02 - 09/89 C)
for the enumeration of thermotolerant coliforms
in all human food

Quantitative method

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This report consists of 58 pages, including 7 appendices.
Only copies including the totality of this report are authorized.

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

Version 0
09 June 2022

Quality Assurance documents related to this study can be consulted upon request from **3M Health Care**.

Measurement uncertainty on the reference method results is not taken into account to provide the conclusion in this report; this measurement uncertainty is however available.

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

Validation protocols	▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — *Part 1: Vocabulary* ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method* ▪ AFNOR technical rules (PR Revision 7).
Reference method♦	NF V08-060 (April 2009) - Microbiology of food and animal feeding stuffs - Enumeration of thermotolerant coliforms by colony-count technique at 44 °C
Alternative method	**3M™ Petrifilm™ Coliform Count (CC) Plate (C)**
Scope	☒ **All human food by performing assays on a broad range of products**
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The **3M™ Petrifilm™ Coliform Count (CC) Plate** was validated on September 1989 (Certificate number 3M 01/02 - 09/89 C) for the **enumeration of thermotolerant coliforms** in a**ll human food by performing assays on a broad range of products** according to the EN ISO 16140 (2003) and the AFNOR technical rules. A summary of the different validation studies is listed below:

Date	Study	Validation standard	ISO method
September 1989	Initial validation	/	/
September 1993	Renewal study	/	/
June 1998	Renewal study - ADRIA	/	V08-060 (1996)
May 2002	Renewal study- ADRIA	/	V08-060 (1996)
June 2006	Renewal study- ADRIA	EN ISO 16140 (2003)	V08-060 (1996)
April 2010	Renewal study- ADRIA	EN ISO 16140 (2003)	V08-060 (2009)
March 2014	Renewal study- ADRIA	EN ISO 16140 (2003)	V08-060 (2009)
June 2018	Renewal study- ADRIA	EN ISO 16140-2 (2016)	V08-060 (2009)
April 2022	Renewal study - ADRIA	EN ISO 16140-2 (2016)	V08-060 (2009)

2 METHODS DESCRIPTION

2.1 Alternative method

2.1.1 Principle

The 3M™ Petrifilm™ Coliform Count (CC) Plate is a sample-ready-culture medium system which contains modified Violet Red Bile (VRB), nutrients and selective agents, a cold-water-soluble gelling agent, and a tetrazolium indicator that facilitates colony enumeration.

2.1.2 Protocol

The flow diagram is described Figure 1.

Figure 1 - Flow diagram of the 3M™ Petrifilm™ Coliform Count (CC) Plate
Thermotolerant coliform enumeration

Sample
↓
x g + 9 x ml of appropriate diluents according to ISO 6887 parts
If necessary, adjust the pH of the suspension between 6.6 and 7.2
↓
Decimal dilution in appropriate diluent
↓
Inoculate 1 ml of decimal dilution (or 1ml of liquid sample) per 3M Petrifilm CC plate
↓
Incubation for 24 h ± 2 h at 44°C ± 1°C
↓
Enumeration of all red colonies

2.1.3 Restrictions

There is no restriction

2.2 Reference method◆

The reference method corresponds to the NF V08-060 (April 2009) - Microbiology of food and animal feeding stuffs - Enumeration of thermotolerant coliforms by colony-count technique at 44 °C (See Figure 2).

◆ Analysis performed according to the COFRAC accreditation

Figure 2 - Flow diagram of the reference method: NF V08-060 (April 2009) - Microbiology of food and animal feeding stuffs - Enumeration of thermotolerant coliforms by colony-count technique at 44 °C

Sample
↓
xg + 9 xg of appropriate diluents according to ISO 6887 parts
↓
Decimal dilutions in appropriate diluent
↓
1 ml per Petri dish (1 Petri dish per dilution)
↓
Pour 15 ml of VRBL
↓
Solidification
↓
Add a double layer of VRBL
↓
Incubation for 24 h ± 2 h at 44°C ± 1°C
↓
Count characteristic colonies (red ∅ ≥ 0.5 mm sometimes surrounded with red colorant) (take into account the Petri dishes with a maximum of 150 characteristic colonies and/or non-characteristic colonies).

3 INITIAL VALIDATION, EXTENSION/RENEWAL STUDIES: 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 the samples

Five food categories were tested. Taking into account all the studies, the repartition of the analyzed samples and interpretable results per category and type is provided in Table 1.

Table 1 – Categories and types

Category		Types		Number of samples tested	Number of results available
1	**Meat products**	a	Raw meats	13	10
		b	Ready to eat, ready to reheat	9	5
		c	Delicatessen	10	5
			Total	32	20
2	**Dairy products**	a	Milk	7	6
		b	Cheeses and fermented milks	9	6
		c	Creams, milk powders	6	5
			Total	22	17
3	**Egg products and egg-based products and pastries**	a	Liquid egg, eggs	5	5
		b	Pastries	8	6
		c	Egg based products	5	5
			Total	18	16
4	**Seafood products**	a	Raw fish	8	5
		b	RTE	13	6
		c	RTRH	7	6
			Total	28	17
5	**Vegetables**	a	Raw and frozen	13	5
		b	RTE	14	6
		c	RTRH, RTC	12	8
			Total	39	19
All categories				**139**	**89**

139 samples were analyzed: 91 for the initial validation study in 2006 and 48 for the renewal study in 2018, leading to 89 exploitable results.

3.1.1.2 Artificial and natural contamination of the samples

Artificial contaminations were realized by seeding protocols. The inoculated strains, the contamination protocols, the injured protocols applied are provided in **Appendix 1**. Injury efficiency was evaluated by enumerating the pure culture on selective (VRBL) and non-selective (TSYEA) agars.

37 samples were artificially contaminated; 30 gave interpretable results by both methods. 59 samples which gave interpretable results by both methods were naturally contaminated.

66.3 % of the samples giving interpretable results by both methods were naturally contaminated.

3.1.1.3 Raw data

The raw data are provided in **Appendix 2**.

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 type.

One replicate was tested for the renewal study while two replicates were tested for the previous studies. Only the results from replicate 1 were kept for interpretation.

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

- Interpretable results with the reference and the alternative methods;
- 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 were 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 $\log_{10}$ 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.

Table 2 - Classification of the data

Category		Number of samples analyzed	Number of samples providing interpretable results by the reference and the alternative method	Number of samples with less than 4 colonies per plate	Number of samples with results below or above the quantification limit
1	**Meat products**	32	20	8	4
2	**Dairy products**	22	17	1	4
3	**Egg products and egg-based products and pastries**	18	16	1	1
4	**Seafood products**	28	17	2	9
5	**Vegetables**	39	19	7	13
All categories		**139**	**89**	**19**	**31**

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 N°	Product	V08-060♦	3M Petrifilm CC	Category	Type
157	Seasoned ground beef	<1,00	1,00*	1	a
162	Cooked turkey	1,30*	1,78	1	a
171	Veal carcass	1,30*	1,00*	1	a
172	RTRH (beef meal)	<1,00	1,30*	1	b
154	Seasoned ground pork	1,00*	1,00*	1	c
155	Sausage	<1,00	<1,00	1	c
156	Sausage	1,30*	1,30*	1	c
158	Sausage	1,30*	1,60	1	c
161	Sausage	<1,00	1,30*	1	c
209	Frozen tomatoes	<1,00	<1,00	5	c
211	Spinach terrine	1,00*	1,00*	5	b
212	Vegetables	<1,00	<1,00	5	a
213	Cooked mushrooms	<1,00	<1,00	5	c
214	Zucchini	<1,00	<1,00	5	a
215	Beans	<1,00	<1,00	5	a
216	Diced tomatoes	<1,00	<1,00	5	a
217	RTE (Piémontaise)	<1,00	<1,00	5	b
218	Spinach	1,00*	<1,00	5	a
233	Raw milk cheese	3,00*	<3,00	2	b
235	Raw milk cheese	2,00*	<2,00	2	b
239	Tuna rillettes with curry	<1,00	<1,00	4	b
245	RTE (Celery)	1,30*	1,60	5	b
246	Coffee butter cream	<1,00	<1,00	2	c
247	Nests	<1,00	<1,00	3	b
249	Curry rillettes	1,00*	1,00*	4	b
250	RTE (Crayfish salad)	<1,00	1,00*	4	b
251	RTE (rice crab)	<1,00	<1,00	4	b
263	Vegetables	<1,00	<1,00	5	a
265	Sliced carrots	<1,00	<1,00	5	b
293	RTE (tomatoes salad)	<1,00	<1,00	5	b
991	Parsley	1,30*	1,30*	5	a
1164	Raw fish fillet	<1,00	<1,00	4	a
1165	Raw fish fillet	<1,00	<1,00	4	a
1166	Raw fish fillet	<1,00	<1,00	4	a
1296	**Frozen mushrooms**	2,00*	2,48*	5	a
1720	**RTRH (duck meal)**	<1,00	1,00	1	b
1722	**RTRH (pork meal)**	2,00*	4,48	1	b
1726	**RTRH (vegetables meal)**	1,48*	1,00*	5	c
1727	**RTRH (vegetables meal)**	<2,00	2,69	5	c
1933	**RTRH (Salmon and pastas)**	<1,00	3,56	4	c
174	RTRH (turkey)	1,70	1,00*	1	b

♦ Analyses performed according to the COFRAC accreditation

Sample N°	Product	V08-060♦	3M Petrifilm CC	Category	Type
234	Raw milk cheese	4,56	<3,00	2	b
242	Vegetables terrine	2,70	1,30*	5	b
244	Salmon terrine	3,26	<1,00	4	b
254	Salmon terrine	2,00	<1,00	4	b
292	Sliced carrots	1,70	<1,00	5	b
295	RTE (seasoned carrots)	1,95	1,00*	5	b
338	Pastry	1,70	1,48*	3	b
527	Fish terrine	1,90	1,48*	4	b
1168	Raw milk	1,60	1,00*	2	a

3.1.1.4 Statistical interpretation

The calculations are provided in **Appendix 3**.

The obtained data were analyzed using the scatter plot. The graphs are provided with the line of identity (y = x).
The Figures 3 to 7 show the data plotted for each individual category.
The Figure 8 shows the data plotted for all the products.

Figure 3 - Data plotted for the Meat products

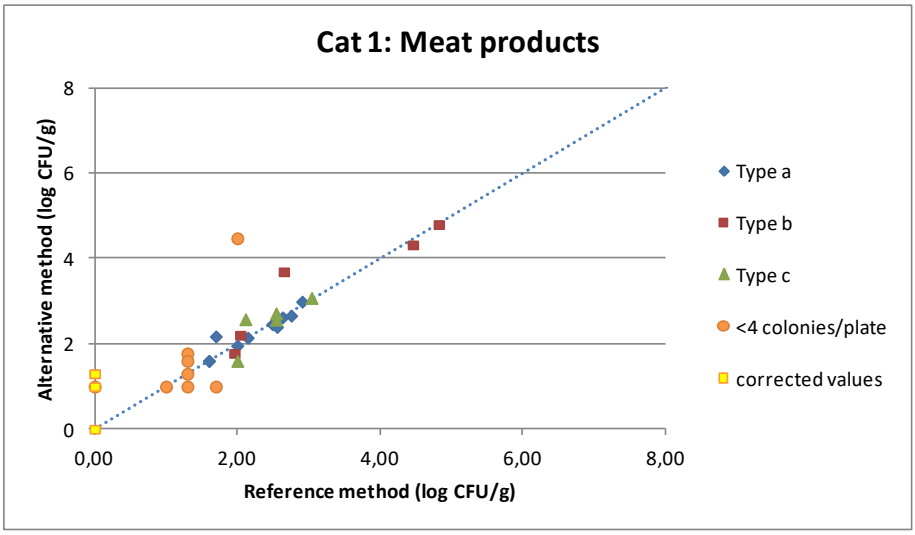


Figure 4- Data plotted for Dairy products

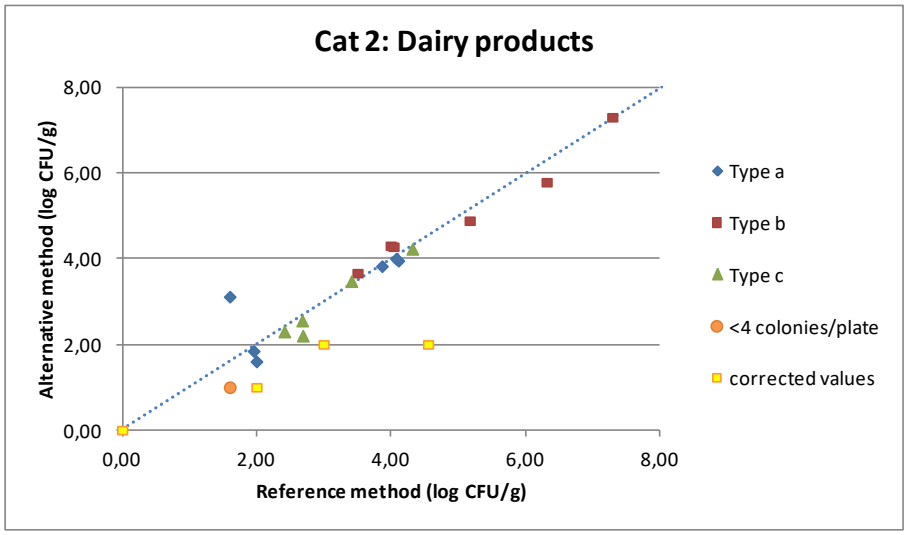


Figure 5- Data plotted for Egg products and egg-based products and pastries

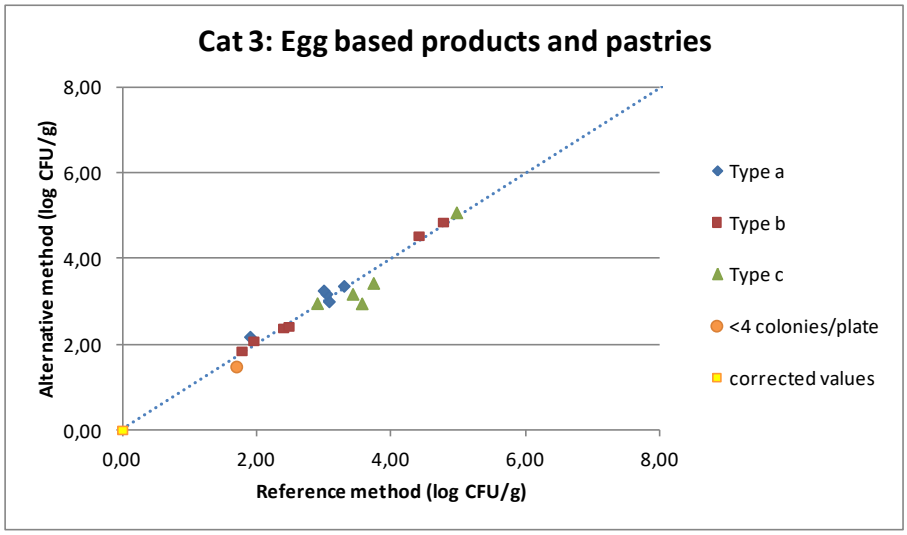


Figure 6- Data plotted for Vegetables

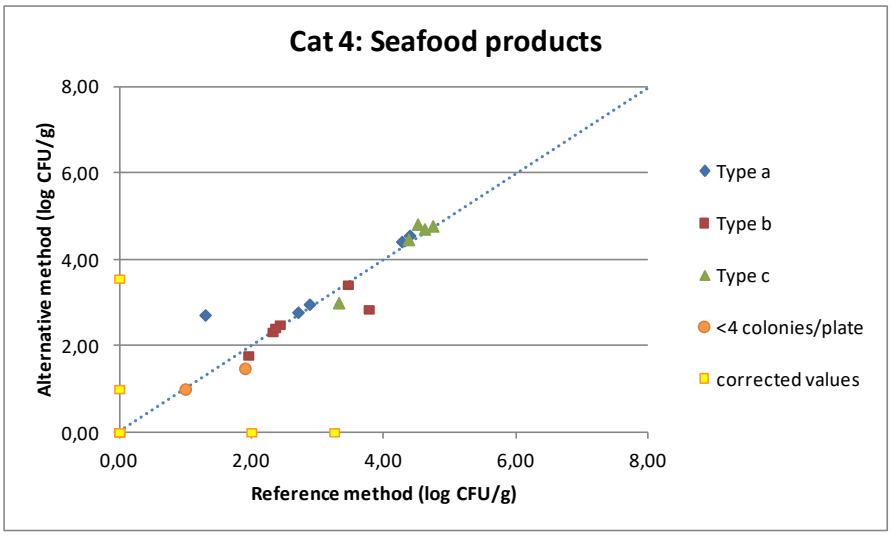


Figure 7- Data plotted for Seafood products

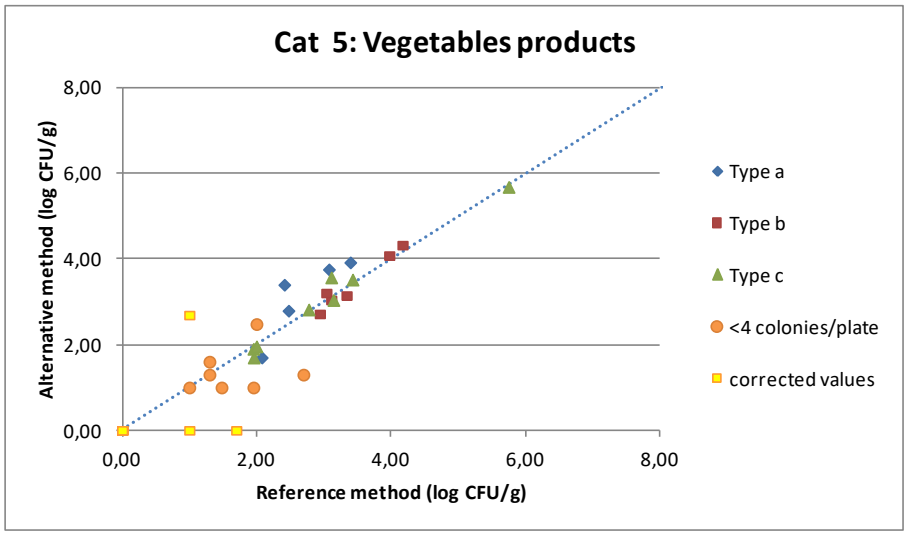
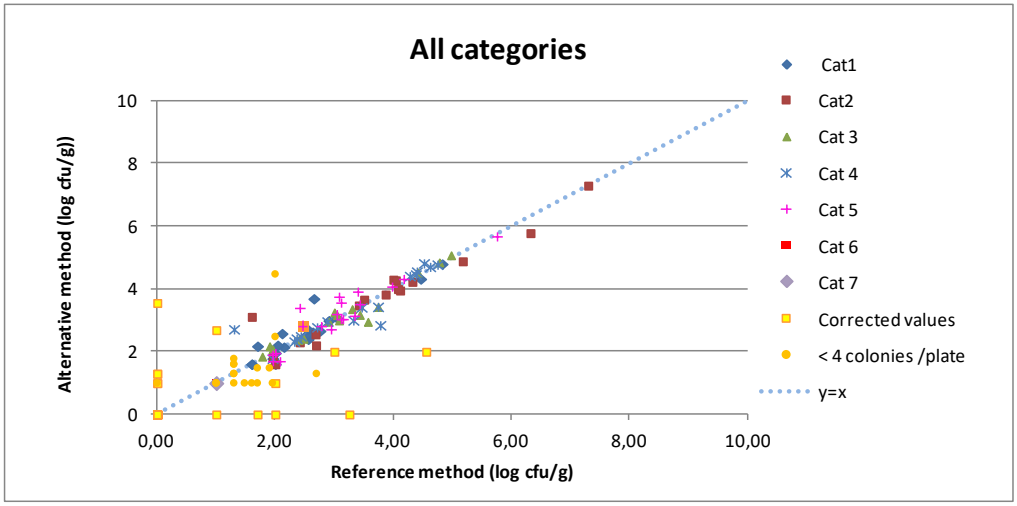


Figure 8 - Data plotted for all the products



The calculated values for Average difference and Standard deviation differences per category are provided in table 4.

Table 4 - Calculated values

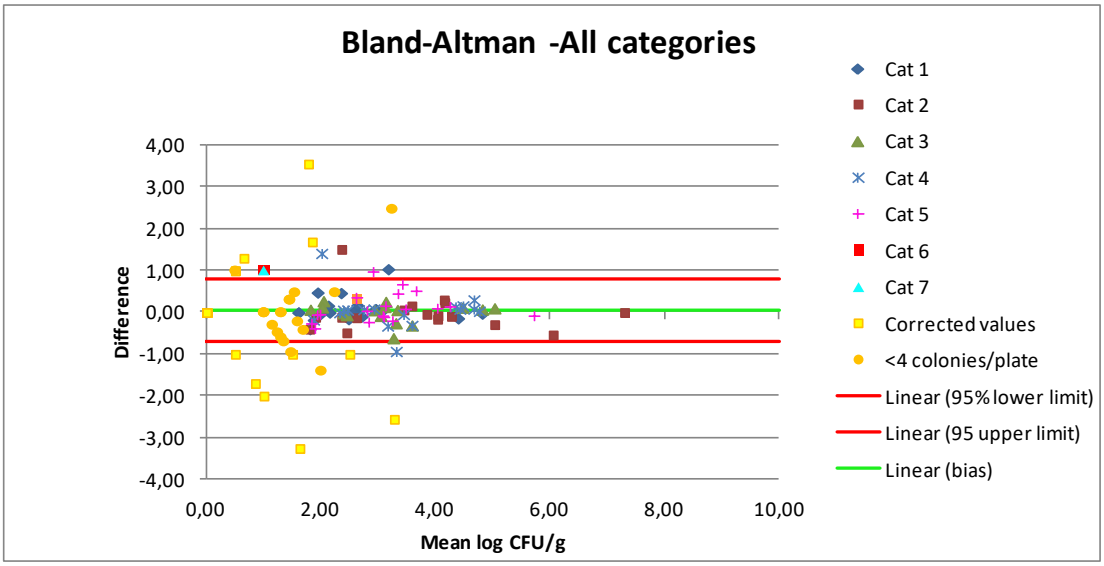
Category		n	$\bar{D}$ (linear bias)	SD	95% lower limit	95% upper limit
1	Meat products	20	0,07	0,30	-0,58	0,72
2	Dairy products	17	-0,01	0,45	-1,00	0,98
3	Egg products, egg based products and pastries	16	0,00	0,23	-0,50	0,49
4	Seafood products	16	0,03	0,43	-0,91	0,98
5	Vegetables	19	0,06	0,41	-0,83	0,95
All categories		**89**	**0,03**	**0,37**	**-0,71**	**0,77**

$\bar{D}$: Average difference SD: Standard deviation of differences

The bias varies from - 0.01 log (dairy products) to 0.07 log (meat products).

The Bland-Altman difference plot for all the samples is given Figure 9.

Figure 9 – Bland-Altman difference plot for all the samples



Samples for which the difference between the result observed with the reference and the alternative methods is above or lower than the limits are listed in Table 5.

Table 5 - Disagreements observed between the reference and the alternative method

Values in green: differences in favor of the alternative method
Values in red: differences in favor of the reference method

Corrected value
Results calculated using enumeration lower than 4 CFU/plate

Classification of data	Category	Type	N°Sample	V08-060	3M Petrifilm CC	Values before correction (Reference or/and alternative method)	Mean	Difference	Lower / Upper limits	Comments
Interpretable results by both methods	1	b	**1721**	2,65	3,69	/	3,17	1,04	-0,71 / 0,77	Higher enumeration by the alternative method (*E. cloacae 150*), very small colonies on VRBL
	2	a	**1723**	1,60	3,11	/	2,36	1,51		Higher enumeration by the alternative method (*Pantoea agglomerans* 11) very small colonies on VRBG
	4	a	**1926**	1,40	2,72	/	2,01	1,41		Higher enumeration by the alternative method
	5	a	**1295**	2,41	3,40	/	2,91	0,98		Higher enumeration by the alternative method (inoculated with *E. aerogenes* Ad889)
	4	b	243	3,78	2,85	/	3,31	-0,93		Higher enumeration by the reference method
< 4 CFU/plate	1	b	**1722**	2,00	4,48	/	3,24	2,48		Higher enumeration by the alternative method (*Citrobacter diversus* 100), µcolonies at 24h, evolution after 48h incubation
	5	b	242	2,70	1,30	/	2,00	-1,40		Higher enumeration by the reference method
	5	b	295	1,95	1,00	/	1,48	-0,95		Higher enumeration by the reference method
< or > the quantification limit	1	b	**1720**	0,00	1,00	1,00	0,50	1,00		Below the quantification limit
	1	a	157	0,00	1,00	1,00	0,50	1,00		Below the quantification limit
	1	c	161	0,00	1,30	1,00	0,65	1,30		Below the quantification limit
	5	b	250	0,00	1,00	1,00	0,50	1,00		Below the quantification limit
	5	c	**1933**	0,00	3,56	1,00	1,78	3,56		Higher enumeration by the alternative method (*Enterobacter cloacae* Ad230),no colonies at 24h on VRBL, colonies after 48h incubation
	5	c	**1727**	1,00	2,69	2,00	1,85	1,69		Higher enumeration by the alternative method (*Citrobacter freundii* 53),no colonies at 24h on VRBL, colonies after 48h incubation
	2	b	233	3,00	2,00	3,00	2,50	-1,00		Below the quantification limit
	2	b	234	4,56	2,00	3,00	3,28	-2,56		Higher enumeration by the reference method
	2	b	235	2,00	1,00	2,00	1,50	-1,00		Below the quantification limit
	4	b	244	3,26	0,00	1,00	1,63	-3,26		Higher enumeration by the reference method
	4	b	254	2,00	0,00	1,00	1,00	-2,00		Higher enumeration by the reference method
	5	a	218	1,00	0,00	1,00	0,50	-1,00		Below the quantification limit
	5	b	292	1,70	0,00	1,00	0,85	-1,70		Below the quantification limit

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
Interpretable results by both methods	< LCL	1
	> UCL	4
	Total	5
<4 CFU/plate	< LCL	1
	> UCL	2
	Total	3
< or > the quantification limit	< LCL	7
	> UCL	6
	Total	13
Total < LCL		**9**
Total >UCL		**12**
TOTAL		**21**

The number of samples giving higher enumeration results with the alternative method is equivalent to the number of samples giving higher enumeration with the reference method when taking into account all the data.

3.1.1.6 Conclusion

The relative trueness study of the alternative method is satisfying.
The alternative method is considered equivalent to the reference method.

3.1.2 Accuracy profile study

The accuracy profile is a graphical representation of the capacity of measurement of the quantitative method, obtained by combining acceptability intervals and β-expectation tolerance intervals, both reported to different levels of the reference value.

3.1.2.1 Matrices

Five matrices were tested. A minimum of one type per category and two different batches was selected, using six samples per type. Two samples were contaminated at a low level, two at intermediate level, and two at a high level.

For each sample, five replicates (five different test portions) were tested. The tested categories, types, matrix and inoculated strains are provided in Table 7.

Table 7 - Categories, types and matrices

Category		Type	Matrix	Inoculated strain	Origin	Inoculation level (CFU/g)
1	Meat products	a - Raw meat	Ground beef	Enterobacter cloacae 58	Unknown	300 10 000 100 000
2	Dairy products	a - Milk	Pasteurized milk	Cronobacter sakazakii 95	Cheese	
3	Egg products and pastries	a - Liquid egg	Pasteurized liquid whole egg	Klebsiella pneumoniae 89	Wiped cream	
4	Seafood products	a - Raw fish	Raw fish fillet	Escherichia coli Ad228	Fish	
5	Vegetables	a - Raw and frozen	Green peas	Escherichia coli 19	Grated carrots	

3.1.2.2 Calculation and interpretation

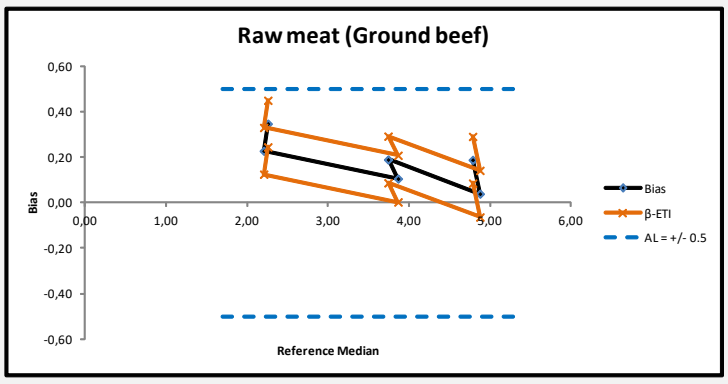
The raw data are provided in **Appendix 4**. The summary tables (in log CFU/g) and calculations are provided in **Appendix 5**. The statistical results and the accuracy profiles are provided Figure 10.

The calculations were done using the AP Calculation Tool MCS (Clause 6-1-3-3 calculation and interpretation of accuracy profile study) ver 2027-01-2015 available on http://standards.iso.org/iso/16140.

The accuracy profiles are comprised within the Acceptability Limits fixed at ± 0.5 log for all the tested matrices.

Figure 10 – Accuracy profile

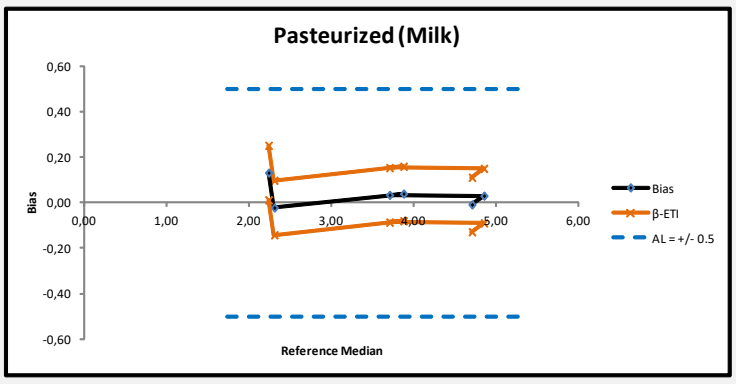
(Food) Category	Meat products
(Food) Type	Raw meat (Ground beef)



Sample Name	Reference central value	Bias	Lower β-ETI	Upper β-ETI	β-ETI compared to AL=±0.5 Acceptable	β-ETI compared to final AL Acceptable
959-963	2,26	0,347	0,244	0,449	YES	YES
974-978	2,20	0,227	0,125	0,330	YES	YES
964-968	3,86	0,105	0,003	0,208	YES	YES
979-983	3,74	0,189	0,087	0,292	YES	YES
969-973	4,88	0,039	-0,064	0,141	YES	YES
984-988	4,79	0,188	0,085	0,290	YES	YES

	Reference method	Alternative method	SD repeatability of reference method <= 0.125	Final AL
SD Repeatability	0,138	0,071	NO	+/- 0,500

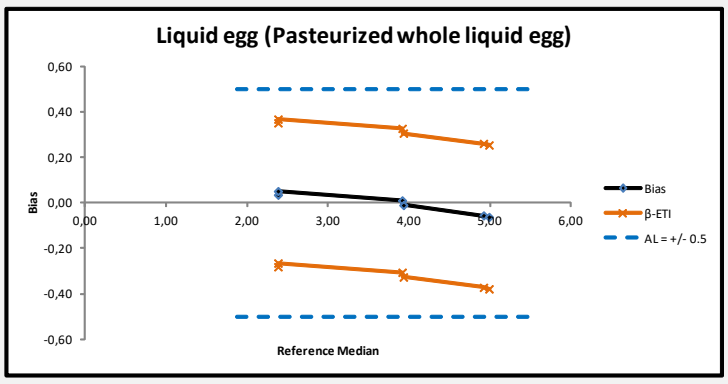
(Food) Category	Milk products
(Food) Type	Pasteurized (Milk)



Sample Name	Reference Central value	Bias	Lower β-ETI	Upper β-ETI	β-ETI compared to AL=±0.5 Acceptable	β-ETI compared to final AL Acceptable
833-837	2,23	0,131	0,011	0,251	YES	YES
848-852	2,30	-0,022	-0,142	0,098	YES	YES
838-842	3,87	0,039	-0,081	0,159	YES	YES
853-857	3,70	0,033	-0,086	0,153	YES	YES
843-847	4,85	0,030	-0,090	0,150	YES	YES
858-862	4,70	-0,009	-0,129	0,111	YES	YES

	Reference method	Alternative method	SD repeatability of reference method <= 0.125	Final AL
SD Repeatability	0,095	0,083	YES	+/- 0,500

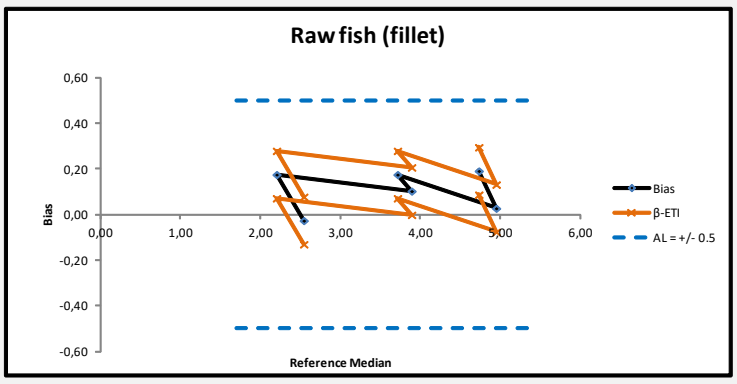
(Food) Category	Egg products and pastries
(Food) Type	Liquid egg (Pasteurized whole



Sample Name	Reference Central value	Bias	Lower β-ETI	Upper β-ETI	β-ETI compared to AL=±0.5 Acceptable	β-ETI compared to final AL Acceptable
1327-1331	2,38	0,035	-0,281	0,351	YES	YES
1342-1346	2,38	0,051	-0,265	0,367	YES	YES
1332-1336	3,91	0,010	-0,306	0,327	YES	YES
1347-1351	3,93	-0,010	-0,326	0,306	YES	YES
1337-1341	4,92	-0,056	-0,372	0,260	YES	YES
1352-1356	4,99	-0,062	-0,379	0,254	YES	YES

	Reference method	Alternative method	SD repeatability of reference method <= 0.125	Final AL
SD Repeatability	0,068	0,219	YES	+/- 0,500

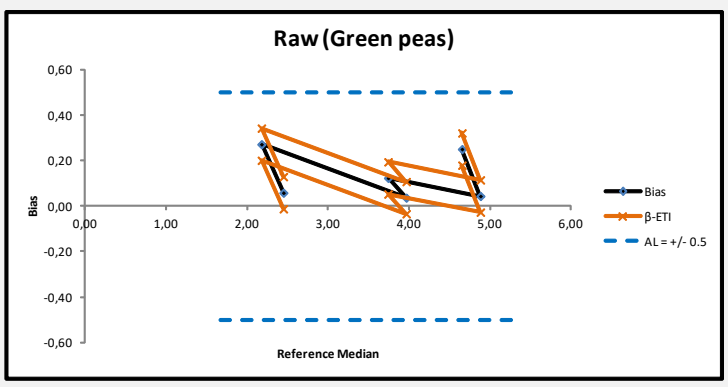
(Food) Category	Seafood products
(Food) Type	Raw fish (fillet)



Sample Name	Reference Central value	Bias	Lower β-ETI	Upper β-ETI	β-ETI compared to AL=±0.5 Acceptable	β-ETI compared to final AL Acceptable
1089-1093	2,54	-0,026	-0,129	0,078	YES	YES
1104-1108	2,20	0,176	0,072	0,280	YES	YES
1094-1098	3,89	0,104	0,000	0,207	YES	YES
1109-1113	3,72	0,176	0,072	0,280	YES	YES
1099-1103	4,95	0,028	-0,076	0,132	YES	YES
1114-1118	4,73	0,192	0,088	0,296	YES	YES

	Reference method	Alternative method	SD repeatability of reference method <= 0.125	Final AL
SD Repeatability	0,081	0,072	YES	+/- 0,500

(Food) Category	Vegetables
(Food) Type	Raw (Green peas)



Sample Name	Reference Central value	Bias	Lower β-ETI	Upper β-ETI	β-ETI compared to AL=±0.5 Acceptable	β-ETI compared to final AL Acceptable
1462-1466	2,45	0,058	-0,013	0,129	YES	YES
1477-1481	2,18	0,271	0,200	0,342	YES	YES
1467-1470	3,96	0,036	-0,035	0,107	YES	YES
1482-1486	3,74	0,123	0,052	0,194	YES	YES
1472-1476	4,88	0,043	-0,027	0,114	YES	YES
1487-1491	4,65	0,250	0,179	0,321	YES	YES

	Reference method	Alternative method	SD repeatability of reference method <= 0.125	Final AL
SD Repeatability	0,059	0,049	YES	+/- 0,500

3.1.2.3 Conclusion

The observed profiles are comprised within the AL. All the accuracy profiles fulfill the performance criteria.

3.1.3 Inclusivity and exclusivity studies

The inclusivity study is a study involving pure target strains to be detected or enumerated by the alternative method.

The exclusivity study is a study involving pure non-target strains, which can be potentially cross-reactive, but are not expected to be detected or enumerated by the alternative method.

3.1.3.1 Protocol

- **Inclusivity**

66 strains were tested: 24 in 1997, 7 in 2005, 6 in 2006 and 29 additional strains for the renewal study.

For the renewal study, each test was performed once with the alternative method, the reference method and a non-selective agar.

- **Exclusivity**

36 non-target strains were tested in 1997. No additional testing was required for the renewal study.

3.1.3.2 Results

The raw data are provided in **Appendix 6.**

- **Inclusivity**

A summary of the results obtained for inclusivity for the different studies is provided in Table 8.

Table 8 - Summary of inclusivity results

	Number of strains tested	Growth on PCA at 44°C	Growth on both 3M Petrifilm CC and VRBL	Growth on VRBL only	Growth on 3M Petrifilm CC only	No growth or weak growth on VRBL and 3M Petrifilm CC
1997	24	23	24	0	0	0
2005	7	7	5	0	1	1
2006	6	*Not tested*	6	0	0	0
2018	29	19	10	0	4	6
Total	**66**	**49**	**45**	**0**	**5**	**7**

66 target strains were tested; 49 strains among the 60 tested on PCA were able to grow at 44°C.

45 strains grew on both 3M Petrifilm CC and VRBL plates, 5 grew only on 3M Petrifilm CC:

- *Cronobacter sakaz*akii L22
- *Enterobacter cloacae* 150
- *Citrobacter diversus* 100
- *Pantoea agglomerans* 11
- *Enterobacter cloacae* 148

Seven strains did not grow or gave poor growth on both media:

- *Enterobacter agglomerans* 74
- *Klebsiella oxytoca* Ad1371
- *Enterobacter kobei* Ad706
- *Cronobacter malonaticus* E752
- *Citrobacter braakii* Ad833
- *Escherichia hermanii* Ad464
- *Escherichia hermanii* Ad457

Exclusivity

The results observed for the study carried out in 1997 is summarized in Table 9

Table 9 - Summary of exclusivity results

Number of strains tested	No growth on both 3M Petrifilm CC and VRBL	Growth on both 3M Petrifilm CC and VRBL	Growth on VRBL only	Growth on 3M Petrifilm CC only
36	30	1	0	5

One strain grew on both media: *Salmonella* Enteritidis CIP8297. Note that this strain was tested again in the inclusivity study in 2006, and this result was confirmed.
Five strains grew only on 3M Petrifilm plates:

- *Citrobacter freundii* adria 59
- *Enterobacter agglomerans* adria11
- *Hafnia alvei* adria 88
- *Hafnia alvei* MIO51295
- *Klebsiella oxytoca* 42

3.1.3.3 Conclusion

The 3M™ Petrifilm™ Coliform Count (CC) Plate is as specific and selective as the reference method.

3.1.4 Practicability

The criteria described in the AFNOR technical rules were evaluated.

Criteria to be control	Communication on criteria	Expert lab checking procedure
Storage conditions	Store the unopened 3M Petrifilm pouches at frozen or refrigerated temperature less than or equal to 8°C (46°F)	Mentioned on the instruction for use
Shelf-life and modalities of utilization after first use	Store resealed pouches in a cool dry place for no longer than four weeks	Mentioned in the kit insert
Time to result	24 h ± 2 h	Mentioned in the kit insert
Common step with the reference method	/	Initial suspensions and dilutions

The results are available in one day by both alternative and reference methods.

3.2 Inter-laboratory Study

The aim of the inter-Laboratory study is to determine the variability of the results obtained in different laboratories using identical samples and to compare these results with those obtained in the methods comparison study.

The results of the inter-laboratory studies run in 2006 were interpreted according to the EN ISO 16140-2:2016 standard using the Excel spread sheet (http://standards.iso.org/iso/16140/-2/ed-1/en/AP%20calculation%20tool_ILS_(clause_6-2-3_Calculations_summary_and_interpretation_of_data)_ver%2014-03-2016.xlsx).

3.2.1 Study organization

14 laboratories participated to this study. Detailed instructions were transmitted to the collaborators by the expert laboratory.

Pasteurized semi-skimmed milk was inoculated by *Escherichia coli* 94, isolated from dairy product.

Inoculation levels targeted were:

- 0 CFU/ml,
- 10 – 100 CFU/ml,

- 100 – 1 000 CFU/ml,
- 1 000 – 10 000 CFU/ml.

Each laboratory received eight flasks of 25 ml sample, i.e. two flasks per inoculation level. Furthermore, one non-inoculated sample was added to the package for total viable count microflora (NF ISO 4833 method).

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

A temperature control flask containing temperature probe was added to the package in order to register temperature profile during transport and at reception. Samples were shipped in 24 h to laboratories of the collaborative study. Sample temperature should be lower or equal to 8°C during transport, and between 0°C - 8°C at arrival.
Collaborative study laboratories and the expert laboratory carried out the analyses with the alternative and reference methods.

A stability study of the strain inoculated was run in order to verify there is no evolution during the transport.

3.2.2 Experimental parameters controls

3.2.2.1 Strain stability during transport

In order to evaluate the *Escherichia coli* 94 strain variability during transport, bacterial count of all inoculated flasks was checked at different time, i.e. inoculation time, after 24 h and 48 h of conservation at 2°C. Results are reported in table 9.

Table 9 – *Escherichia coli* 94 stability in the matrix (in log CFU/ml)

	Level 1		Level 2		Level 3	
	Reference method	Alternative method	Reference method	Alternative method	Reference method	Alternative method
Day 0	71 / 76	75 / 78	580 / 670	540 / 450	5 900 / 6 700	3 700 / 4 000
Day 1	65 / 45	64 / 60	560 / 620	360 / 390	3 900 / 5 400	4 000 / 5 500
Day 2	68 / 96	58 / 56	830 / 910	570 / 470	6 500 / 1 900	4 600 / 4 200

No evolution was observed during storage for 48 h at 5°C ± 3°C.

3.2.2.2 Logistic conditions

The temperatures measured at reception by the Labs, the temperatures registered by the thermo-probe, and the receipt dates are given in Table 10.

Table 10 - Sample temperatures at receipt

Laboratories	Temperature measured by the temperature probe (°C)
A	2.2
B	2.0
C	5.3
D	1.7
E	2.7
F	3.3
G	2.8
H	4.9
I	3.5
J	1.5
K	1.8
L	3.9
N	2.5
O	5.0

No problem was encountered during the transport or at receipt for the 14 collaborators. All the samples were delivered on time and in appropriate conditions. Temperatures during shipment and at receipt were all correct.

3.2.3 Result analysis

The raw data are given in **Appendix 7**.

3.2.3.1 Results obtained by the expert Lab.

The results obtained by the expert Lab. are the following (See table 11).

Table 11 – Results obtained by the expert Lab.

Level	Targeted rate (log CFU/g)	Reference method		Alternative method	
		Duplicate 1	Duplicate 2	Duplicate 1	Duplicate 2
0	0	0	0	0	0
1	1 to 2	1.81	1.65	1.81	1.78
2	2 to 3	2.75	2.79	2.56	2.59
3	3 to 4	3.59	3.75	3.60	3.74

3.2.3.2 Results obtained by the collaborators

- **Mesophilic aerobic microflora**

The mesophilic aerobic microflora was done on the matrix with ISO 4833 method. The results varied from 70 to 3 600 CFU/ml.

- **Thermotolerant coliforms enumeration**

A summary of the test results is given in Table 12 (CFU/g) and Table 13 (log CFU/g).

Table 12 - Summary of data (CFU/ml)

Labs	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	0	0	57	73	36	45	680	660	360	450	3100	8500	3600	3300
B	<10	<10	0	0	67	68	74	84	800	670	550	760	6300	6100	5000	4500
C	<10	<10	0	0	35	39	57	57	470	490	480	380	5200	3900	3900	2900
D	<10	<10	0	0	70	73	57	77	490	630	560	500	6300	7800	4800	4000
E	<10	<10	0	0	51	88	85	68	960	680	580	680	7900	5900	7000	6000
F	<10	<10	0	0	55	45	64	66	530	470	540	510	6700	6500	5500	4500
G	<10	<10	0	0	67	69	78	70	660	780	620	490	6800	9600	5800	5600
H	<10	<10	0	0	59	49	86	78	780	870	560	600	8200	8700	5000	5400
J	<10	<10	0	0	80	72	63	78	650	780	560	570	5800	10000	6100	3600
K	<10	<10	0	0	62	63	58	61	670	750	580	660	4500	5800	4500	4900
L	<10	<10	0	0	25	31	66	72	390	510	540	500	4700	5400	3300	5400
N	<10	<10	0	0	65	35	84	95	760	1000	600	650	10000	8000	7700	7000
O	<10	<10	0	0	94	93	73	92	680	990	590	730	9500	6500	4800	6600

Table 13 - Summary of data (log CFU/ml)

Labs	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	<1,00	<1,00	<1,00	1,76	1,86	1,56	1,65	2,83	2,82	2,56	2,65	3,49	3,93	3,56	3,52
B	<1,00	<1,00	<1,00	<1,00	1,83	1,83	1,87	1,92	2,90	2,83	2,74	2,88	3,80	3,79	3,70	3,65
C	<1,00	<1,00	<1,00	<1,00	1,54	1,59	1,76	1,76	2,67	2,69	2,68	2,58	3,72	3,59	3,59	3,46
D	<1,00	<1,00	<1,00	<1,00	1,85	1,86	1,76	1,89	2,69	2,80	2,75	2,70	3,80	3,89	3,68	3,60
E	<1,00	<1,00	<1,00	<1,00	1,71	1,94	1,93	1,83	2,98	2,83	2,76	2,83	3,90	3,77	3,85	3,78
F	<1,00	<1,00	<1,00	<1,00	1,74	1,65	1,81	1,82	2,72	2,67	2,73	2,71	3,83	3,81	3,74	3,65
G	<1,00	<1,00	<1,00	<1,00	1,83	1,84	1,89	1,85	2,82	2,89	2,79	2,69	3,83	3,98	3,76	3,75
H	<1,00	<1,00	<1,00	<1,00	1,77	1,69	1,93	1,89	2,89	2,94	2,75	2,78	3,91	3,94	3,70	3,73
J	<1,00	<1,00	<1,00	<1,00	1,90	1,86	1,80	1,89	2,81	2,89	2,75	2,76	3,76	4,00	3,79	3,56
K	<1,00	<1,00	<1,00	<1,00	1,79	1,80	1,76	1,79	2,83	2,88	2,76	2,82	3,65	3,76	3,65	3,69
L	<1,00	<1,00	<1,00	<1,00	1,40	1,49	1,82	1,86	2,59	2,71	2,73	2,70	3,67	3,73	3,52	3,73
N	<1,00	<1,00	<1,00	<1,00	1,81	1,54	1,92	1,98	2,88	3,00	2,78	2,81	4,00	3,90	3,89	3,85
O	<1,00	<1,00	<1,00	<1,00	1,97	1,97	1,86	1,96	2,83	3,00	2,77	2,86	3,98	3,81	3,68	3,82

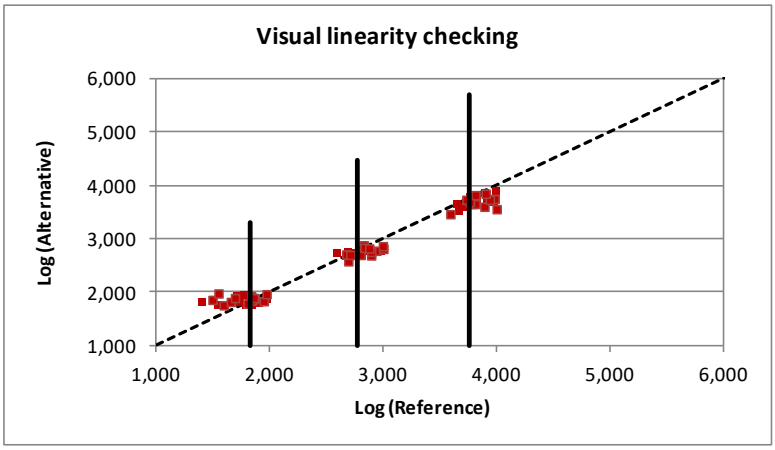
The laboratory A received the package at Day 1, but realized the analyses only at Day 2 and the laboratory I did not realize two successive dilutions. These results were not taken into account for statistical interpretation.

3.2.4 Calculation and interpretation

3.2.4.1 Visual linearity checking

The Figure 11 shows the data points after $\log_{10}$ transformation. The visual inspection shows that the alternative method gives results, which are proportional to those of the reference method. The data are distributed closely to the first bisecting lines with a slope equal to 1.

Figure 11 - Visual linearity checking



3.2.4.2 Accuracy profile calculation

Statistical calculations were done according to the Excel spreadsheet available on http://standards.iso.org/ISO/16140. A summary of the statistical test is provided in Table 14.

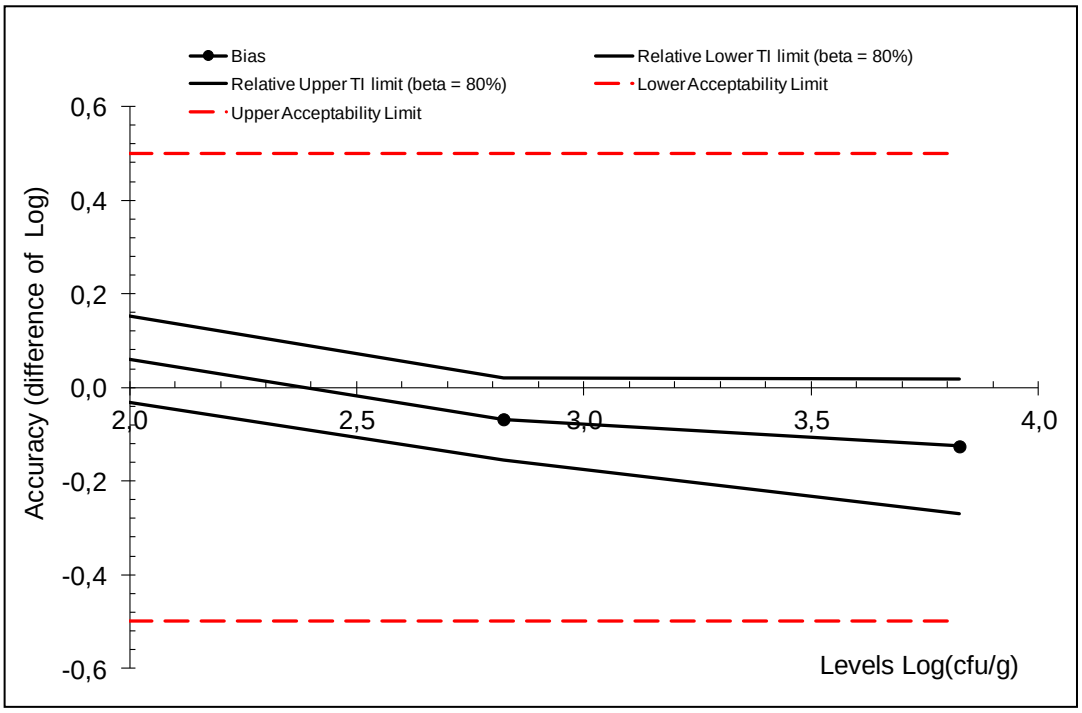
Table 14 - Summary of statistical tests

Accuracy profile	0,5					
Study Name	3M Petrifilm CC					
Date	2006					
Coordinator	ADRIA Développement					
Tolerance probability (beta)	80%	80%	80%			
Acceptability limit in log (lambda)	0,50	0,50	0,50			
	Alternative method			**Reference method**		
Levels	**Low**	**Medium**	**High**	**Low**	**Medium**	**High**
Target value	**1,759**	**2,823**	**3,827**			
Number of participants (K)	12	12	12	12	12	12
Average for alternative method	1,856	2,755	3,701	1,759	2,823	3,827
Repeatability standard deviation (sr)	0,049	0,051	0,081	0,081	0,069	0,085
Between-labs standard deviation (sL)	0,048	0,039	0,068	0,133	0,090	0,075
Reproducibility standard deviation (sR)	0,068	0,065	0,106	0,156	0,113	0,113
Corrected number of dof	17,899	19,682	19,063	14,350	15,843	18,660
Coverage factor	1,371	1,363	1,366			
Interpolated Student t	1,331	1,326	1,328			
Tolerance interval standard deviation	0,0704	0,0663	0,1090			
Lower TI limit	1,762	2,667	3,556			
Upper TI limit	1,950	2,843	3,845			
Bias	**0,097**	**-0,068**	**-0,126**			
Relative Lower TI limit (beta = 80%)	**0,003**	**-0,156**	**-0,271**			
Relative Upper TI limit (beta = 80%)	**0,191**	**0,020**	**0,019**			
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	0,129					

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.

These values are collected in a graphical representation together with the acceptability limits (AL). This representation is given Figure 12.

Figure 12 - Accuracy profile



It is observed that for all the levels, the tolerance interval limits of the alternative method are within the acceptable limits of ± 0.5 log.

The results obtained with the alternative method are not statically different than those obtained with the reference method.

3.2.4.3 Conclusion

The alternative method is equivalent to the reference method.

3.3 General conclusion

The observed data and interpretation confirm the performances of the alternative method:

- 139 samples were tested in the relative trueness study providing 89 interpretable results, which clearly satisfied the required criteria for quantitative method comparison per ISO 16140-2;

- The observed profiles are comprised within the AL actually set at 0.5 Log CFU/g in the EN ISO 16140-2:2016.

- The inclusivity and exclusivity testing shows satisfying results.

- The quality assurance parameters were verified (i.e. targeted levels, strain stability, logistic conditions, analyses), confirming that the inter-laboratory study was conducted in appropriate conditions.

- For the inter-laboratory study, the data interpretations were done according to the EN ISO 16140-2:2016. For the three contamination levels, the alternative method is accepted as equivalent to the reference method.

Based on the results obtained for the method comparison study and the inter-laboratory study, the 3M Petrifilm Coliform Count plate is considered equivalent to the reference method.

Quimper, 09 June 2022

Maryse RANNOU
Project Manager
Validation of Alternative methods
Food Safety & Quality

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

Appendix 1 – Artificial contaminations of samples

Analysis date	Sample N°	Product (French name)	Product	Inoculations				Category	Type
				Strain		Injury applied	Injury evaluation		
				Reference	Origin				
2018	**1153**	**Mayonnaise**	**Mayonnaise**	*E.coli* 142	Liquid egg	Seeding 48h 5±3°C	/	3	a
2018	**1154**	**Flan patissier**	**Pastry**	*E.coli* 142	Liquid egg	Seeding 48h 5±3°C	/	3	b
2018	**1155**	**Far aux pruneaux**	**Pastry**	*E.coli* 143	Mayonnaise	Seeding 48h 5±3°C	/	3	b
2018	**1156**	**Eclair à la vanille**	**Pastry**	*E.coli* 143	Mayonnaise	Seeding 48h 5±3°C	/	3	b
2018	**1157**	**Pâte feuilletée**	**Puff pastry**	*E.coli* Ad222	Egg product	Seeding 48h 5±3°C	/	3	c
2018	**1158**	**Pâte brisée**	**Puff pastry**	*E.coli* Ad222	Egg product	Seeding 48h 5±3°C	/	3	c
2018	**1159**	**Nems crabe crevette**	**RTRH (spring rolls)**	*E.coli* Ad228	Fish	Seeding 48h 5±3°C	/	4	c
2018	**1160**	**Accras de morue**	**RTRH (accras)**	*E.coli* 93	RTRH fish meal	Seeding 48h 5±3°C	/	4	c
2018	**1161**	**Encornets farçis**	**RTRH (squid)**	*E.coli* Ad228	Fish	Seeding 48h 5±3°C	/	4	c
2018	**1162**	**Paëlla**	**RTRH (Paella)**	*E.coli* 144	Paella	Seeding 48h 5±3°C	/	4	c
2018	**1293**	**Glace au chocolat**	**Ice cream (chocolate)**	*E.coli* 16	Milk	Seeding 2 weeks -20°C	/	2	c
2018	**1294**	**Glace au café**	**Ice cream (coffee)**	*E.coli* Ad1422	Milk	Seeding 2 weeks -20°C	/	2	c
2018	**1295**	**Haricots verts surgelés**	**Frozen green beans**	*E.coli* 19	Grated carrots	Seeding 2 weeks -20°C	/	5	a
2018	**1296**	**Champignons surgelés**	**Frozen mushrooms**	*E.coli* 19	Grated carrots	Seeding 2 weeks -20°C	/	5	a
2018	**1720**	**Parmentier de canard**	**RTRH (duck meal)**	*H. alvei* 168	Raw duck	Seeding 48h 5±3°C	/	1	b
2018	**1721**	**Bœuf bourguignon**	**RTRH (beef meal)**	*E. cloacae* 150	Ground beef	Seeding 48h 5±3°C	/	1	b
2018	**1722**	**Sauté de porc à la catalane**	**RTRH (pork meal)**	*C. diversus* 100	Pork	Seeding 48h 5±3°C	/	1	b
2018	**1723**	**Lait cru fermier**	**Raw milk**	*P. agglomerans* 11	Cheese	Seeding 48h 5±3°C	/	2	a
2018	**1724**	**Lait cru**	**Raw milk**	*E.coli* Ad1816	Cheese	Seeding 48h 5±3°C	/	2	a
2018	**1725**	**Eclair au chocolat**	**Pastry**	*C. sakazakii* 90	Pastry	Seeding 48h 5±3°C	/	3	b
2018	**1726**	**Boulettes aux légumes**	**RTRH (vegetables meal)**	*C. freundii* 53	Green beans	Seeding 48h 5±3°C	/	5	c
2018	**1727**	**Galettes lentilles carottes**	**RTRH (vegetables meal)**	*C. freundii* 53	Green beans	Seeding 48h 5±3°C	/	5	c
2018	**1926**	**Filet de Merlan**	**Fish fillet**	*E. cloacae* 148	Paella	Seeding 48h 5±3°C	/	4	a
2018	**1927**	**Dos de Cabillaud**	**Fish fillet**	*E.coli* 93	RTRH fish meal	Seeding 48h 5±3°C	/	4	a
2018	**1928**	**Saumon d'élévage**	**Salmon fillet**	*E.coli* 144	Paella	Seeding 48h 5±3°C	/	4	a
2018	**1929**	**Aubergine**	**Eggplant**	*E.coli* 19	Grated carrots	Seeding 48h 5±3°C	/	5	a

Analysis date	Sample N°	Product (French name)	Product	Inoculations				Category	Type
				Strain		Injury applied	Injury evaluation		
				Reference	Origin				
2018	**1930**	**Courgette**	**Zucchini**	*E.coli* 19	Grated carrots	Seeding 48h 5±3°C	/	5	a
2018	**1931**	**Tomate**	**Tomato**	*E.c loacae* 85	Frozen macedoine	Seeding 48h 5±3°C	/	5	a
2018	**1932**	**Filet de cabillaud, riz, poireaux**	**RTRH (fish, rice, leeks)**	*E.coli* 144	Paella	Seeding 48h 5±3°C	/	4	c
2018	**1933**	**Saumon cuisiné et pâtes**	**RTRH (Salmon and pastas)**	*E.c loacae* Ad230	Tuna	Seeding 48h 5±3°C	/	4	c
2018	**2116**	**Museau de porc**	**RTE (seasoned pork)**	*E.coli* 91	Cooked tomatoes	Seeding 48h 5±3°C	/	1	b
2018	**2117**	**Lasagne à la bolognaise**	**RTRH (Bolognese lasagne)**	*E.coli* 123	Veal liver	Seeding 48h 5±3°C	/	1	b
2018	**2118**	**Falafels pois chiches épinards**	**RTRH (falafels)**	*K. pneumoniae* MIO10494	Frozen vegetables	Seeding 48h 5±3°C	/	5	c
2018	**2119**	**Couscous végétarien**	**RTRH (vegetarian couscous)**	*K. pneumoniae* 139	Vegetables	Seeding 48h 5±3°C	/	5	c
2018	**2120**	**Coleslaw**	**RTE (Coleslaw)**	*C. sakazakii* 138	Spices	Seeding 48h 5±3°C	/	5	b
2018	**2121**	**Carottes râpées**	**RTE (Grated carrots)**	*C. sakazakii* 138	Spices	Seeding 48h 5±3°C	/	5	b

Appendix 2 - Relative trueness study: raw data

* < 4 colonies per plate Ne: estimated number N': arithmetic mean

* Analyses run in summer 1997

** Analyses run in winter 1997

MEAT PRODUCTS																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	154	Chair à saucisse	Seasoned ground pork	/	10	1	4	10	40	1,00*	1,60	1,00*	10	1	1	10	100	1,00*	2,00*	1,00*	1	c
					100	0	0						100	0	0						1	
2006	155	Saucisse	Sausage	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	1	c
					100	0	0						100	0	0						1	
2006	156	Saucisse	Sausage	/	10	2	0	20	<10	1,30*	<1,00	1,30*	10	2	8	20	80	1,30*	1,90	1,30*	1	c
					100	0	0						100	0	0						1	
2006	157	Steak tartare	Seasoned ground beef	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	1	1	10	10	1,00*	1,00*	1,00*	1	a
					100	0	0						100	0	0						1	
2006	158	Saucisse	Sausage	/	10	1	5	20	50	1,30*	1,70 Ne	1,30*	10	4	5	40	50	1,60 Ne	1,70 Ne	1,60	1	c
					100	1	0						100	0	0						1	
2006	159	Foie de veau	Veal liver	/	10	10	14	100	140	2,00	2,15	2,00	10	10	7	91	70	1,96	1,85 Ne	1,96	1	a
					100	1	1						100	0	2						1	
2006	160	Merguez	Merguez	/	10	11	7	100	70	2,00	1,85 Ne	2,00	10	4	11	40	100	1,60 Ne	2,00	1,60 Ne	1	c
					100	0	0						100	0	0						1	
2006	161	Saucisse	Sausage	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	2	1	20	10	1,30*	1,00*	1,30*	1	c
					100	0	0						100	2	0						1	
2006	162	Sauté de dindonneau	Cooked turkey	/	10	2	3	20	30	1,30*	1,48*	1,30*	10	6	4	60	40	1,78 Ne	1,60 Ne	1,78 Ne	1	a
					100	0	1						100	0	0						1	
2006	163	Blanc de poule sans peau	Skinless hen	/	10	4	9	40	90	1,60 Ne	1,95 Ne	1,60 Ne	10	4	6	40	60	1,60 Ne	1,78 Ne	1,60 Ne	1	a
					100	0	0						100	0	0						1	
2006	164	Blanc de poule sans peau	Skinless hen	/	10	5	12	50	130	1,70 Ne	2,11	1,70 Ne	10	15	9	150	90	2,18	1,95 Ne	2,18	1	a
					100	1	2						100	1	1						1	
2006	165	Blanc de poulet sans peau	Skinless hen	/	10	15	8	140	80	2,15	1,90 Ne	2,15	10	13	10	140	100	2,15	2,00	2,15	1	a
					100	0	2						100	2	1						1	
2006	166	Morceaux de poule avec peau	Hen pieces with skin	/	10	79	93	810	930	2,91	2,97	2,91	10	101	83	980	800	2,99	2,90	2,99	1	a
					100	10	9						100	7	5						1	
2006	167	Viande blanche	Raw poultry meat	/	10	43	45	430	460	2,63	2,66	2,63	10	40	37	420	380	2,62	2,58	2,62	1	a
					100	4	5						100	6	5						1	
2006	168	Viande de blanche	Raw poultry meat	/	10	38	33	360	360	2,56	2,56	2,56	10	26	28	250	260	2,40	2,41	2,40	1	a
					100	1	6						100	1	1						1	
2006	169	Collier	Raw beef	/	10	30	30	310	310	2,49	2,49	2,49	10	31	34	290	350	2,46	2,54	2,46	1	a
					100	4	4						100	1	4						1	
2006	170	Collier	Raw beef	/	10	58	49	570	490	2,76	2,69	2,76	10	47	69	460	690	2,66	2,84	2,66	1	a
					100	5	5						100	3	7						1	
2006	171	Surface carcasse de veau	Veal carcass	/	10	2	0	20	<10	1,30*	<1,00	1,30*	10	1	1	10	10	1,00*	1,00*	1,00*	1	a
					100	0	0						100	0	0						1	
2006	172	Langue de bœuf sauce piquante	RTRH (beef meal)	/	10	0	1	<10	10	<1,00	1,00*	<1,00	10	2	1	20	10	1,30*	1,00*	1,30*	1	b
					100	0	0						100	0	1						1	

♦ Analyses performed according to the COFRAC accreditation

MEAT PRODUCTS																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	173	Bœuf aux carottes	RTRH (beef carrots)	/	10	10	21	91	190	1,96	2,28	1,96	10	6	10	60	91	1,78	1,96	1,78	1	b
					100	0	0						100	1	0						1	
2006	174	Dinde à la crème	RTRH (turkey)	/	10	5	7	50	70	1,70	1,85	1,70	10	1	2	10	20	1,00*	1,30*	1,00*	1	b
					100	0	0			Ne	Ne	Ne	100	0	0						1	
2006	175	Foie de bœuf	Beef liver	/	10	4	1	40	10	1,60	1,00*	1,60	10	4	3	40	30	1,60	1,48*	1,60	1	a
					100	0	0			Ne		Ne	100	0	0			Ne		Ne	1	
2018	989	Chipolatas	Sausage	6,81	10	103	/	1100	/	3,04	/	3,04	10	123	/	1200	/	3,08	/	3,08	1	c
					100	13	/						100	10	/						1	
2018	990	Chipolatas	Sausage	6,98	10	32	/	350	/	2,54	/	2,54	10	37	/	370	/	2,57	/	2,57	1	c
					100	6	/						100	4	/						1	
2018	992	Brochette de dinde et poivrons	RTRH (turkey)	7,03	10	11	/	110	/	2,04	/	2,04	10	18	/	160	/	2,20	/	2,20	1	b
					100	1	/						100	0	/						1	
2018	1717	Chipolatas	Sausages	6,95	10	32	/	350	/	2,54	/	2,54	10	54	/	520	/	2,72	/	2,72	1	c
					100	6	/						100	3	/						1	
2018	1718	Chipolatas	Sausages	6,98	10	12	/	130	/	2,11	/	2,11	10	38	/	380	/	2,58	/	2,58	1	c
					100	2	/						100	4	/						1	
2018	**1720**	**Parmentier de canard**	**RTRH (duck meal)**	6,98	10	0	/	<10	/	<1,00	/	<1,00	10	0	/	<10	/	1,00	/	1,00	1	b
					100	0	/						100	0	/						1	
2018	**1721**	**Bœuf bourguignon**	**RTRH (beef meal)**	6,93	10	47	/	450	/	2,65	/	2,65	100	50	/	4900	/	3,69	/	3,69	1	b
					100	2	/						1000	4	/						1	
2018	**1722**	**Sauté de porc à la catalane**	**RTRH (pork meal)**	6,97	100	1	/	100	/	2,00*	/	2,00*	1000	32	/	30000	/	4,48	/	4,48	1	b
					1000	0	/						10000	1	/						1	
2018	**2116**	**Museau de porc**	**RTE (seasoned pork)**	6,90	1000	71	/	67000	/	4,83	/	4,83	1000	64	/	63000	/	4,80	/	4,80	1	b
					10000	3	/						10000	5	/						1	
2018	**2117**	**Lasagne à la bolognaise**	**RTRH (Bolognese lasagne)**	6,96	100	>150	/	29000	/	4,46	/	4,46	100	>150	/	21000	/	4,32	/	4,32	1	b
					1000	29	/						1000	21	/						1	

DAIRY PRODUCTS																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	230	Lait cru	Raw milk	/	100	138	159	13000	16000	4,11	4,20	4,11	100	91	101	9000	10000	3,95	4,00	3,95	2	a
					1000	4	16						1000	8	13						2	
2006	231	Fromage au lait cru	Raw milk cheese	/	100	31	28	3200	2600	3,51	3,41	3,51	100	49	42	4600	4400	3,66	3,64	3,66	2	b
					1000	4	1						1000	2	7						2	
2006	232	Fromage au lait cru	Raw milk cheese	/	1000	11	12	10000	14000	4,00	4,15	4,00	1000	19	18	20000	19000	4,30	4,28	4,30	2	b
					10000	0	3						10000	3	3						2	
2006	233	Fromage de chèvre	Raw milk cheese	/	1000	1	0	10000	<1000	3,00*	<4,00	3,00*	1000	0	0	<1000	<1000	<3,00	<1,00	<3,00	2	b
					10000	0	0						10000	0	0						2	
2006	234	Fromage au lait cru	Raw milk cheese	/	1000	37	42	36000	40000	4,56	4,60	4,56	1000	0	0	<1000	<1000	<3,00	<1,00	<3,00	2	b
					10000	3	2						10000	0	0						2	
2006	235	Fromage de chèvre	Raw milk cheese	/	100	1	2	100	200	2,00*	2,30*	2,00*	100	0	0	<100	<100	<2,00	<1,00	<2,00	2	b
					1000	0	0						1000	0	0						2	
2006	236	Fromage de chèvre	Raw milk cheese	/	100000	>150	>150	20000000	160000000	7,30	8,20	7,30	100000	>150	>150	20000000	19000000	7,30 N'	7,28 N'	7,30 N'	2	b
					1000000	20	16						1000000	20	19						2	
2006	237	Crème fraîche	Cream	/	100	>150	>150	21000	10000	4,32	4,00	4,32	100	>150	164	17000	21000	4,23 N'	4,32 N'	4,23 N'	2	c
					1000	21	10						1000	17	21						2	
2006	246	Crème au beurre au café	Coffee butter cream	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	2	c
					100	0	0						100	0	0						2	
2006	255	Poudre de lait	Milk powder	/	10	28	18	260	170	2,41	2,23	2,41	10	18	10	200	100	2,30	2,00	2,30	2	c
					100	1	1						100	4	1						2	
2006	256	Poudre de lait	Milk powder	/	10	49	41	490	440	2,69	2,64	2,69	10	14	15	160	190	2,20	2,28	2,20	2	c
					100	5	7						100	4	6						2	
2006	262	Lait cru	Raw milk	/	10	10	12	91	110	1,96	2,04	1,96	10	7	3	70	30	1,85	1,48*	1,85	2	a
					100	0	0						100	0	1			Ne		Ne	2	
2006	266	Lait cru	Raw milk	/	100	126	163	12000	15000	4,08	4,18	4,08	100	101	70	10000	7600	4,00	3,88	4,00	2	a
					1000	9	5						1000	12	14						2	
2006	267	Lait ribot	Buttermilk	/	100	>150	>150	11000	24000	4,04 N'	4,38 N'	4,04 N'	100	>150	>150	19000	34000	4,28 N'	4,53 N'	4,28 N'	2	b
					1000	11	24						1000	19	34						2	
2006	268	Picodon	Cheese	/	1000	154	114	150000	120000	5,18	5,08	5,18	1000	83	100	77000	100000	4,89	5,00	4,89	2	b
					10000	11	9						10000	2	13						2	
2006	269	Cantal	Cheese	/	10000	228	228	2100000	2100000	6,32	6,32	6,32	1000	>150	>150	610000	640000	5,79 N'	5,81 N'	5,79 N'	2	b
													10000	61	64						2	
2018	1167	Lait cru	Raw milk	7,07	10	11	/	100	/	2,00	/	2,00	10	4	/	40	/	1,60	/	1,60	2	a
					100	0	/						100	1	/			Ne		Ne	2	
2018	1168	Lait cru	Raw milk	7,05	10	4	/	40	/	1,60	/	1,60	10	1	/	10	/	1,00*	/	1,00*	2	a
					100	0	/			Ne		Ne	100	0	/						2	
2018	**1293**	**Glace au chocolat**	**Ice cream (chocolate)**	7,04	10	49	/	480	/	2,68	/	2,68	10	35	/	360	/	2,56	/	2,56	2	c
					100	4	/						100	4	/						2	
2018	**1294**	**Glace au café**	**Ice cream (coffee)**	6,98	100	26	/	2600	/	3,41	/	3,41	100	29	/	3000	/	3,48	/	3,48	2	c
					1000	3	/						1000	4	/						2	
2018	**1723**	**Lait cru fermier**	**Raw milk**	7,05	10	4	/	40	/	1,60 Ne	/	1,60 Ne	10	142	/	1300	/	3,11	/	3,11	2	a
					100	1	/						100	3	/						2	
2018	**1724**	**Lait cru**	**Raw milk**	7,05	100	78	/	7400	/	3,87	/	3,87	100	65	/	6700	/	3,83	/	3,83	2	a
					1000	3	/						1000	9	/						2	

♦ Analyses performed according to the COFRAC accreditation

EGG PRODUCTS AND EGG BASED PRODUCTS AND PASTRIES																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	247	Nids	Nests	/	10	0	1	<10	10	<1,00	1,00*	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	3	b
					100	0	0						100	0	0						3	
2006	258	Coule d'œuf entier	Liquid egg	/	100	21	14	2000	1400	3,30	3,15	3,30	100	25	30	2300	3000	3,36	3,48	3,36	3	a
					1000	1	1						1000	0	3						3	
2006	261	Coule de jaune d'œuf	Yolk liquid egg	/	10	113	113	1200	1100	3,08	3,04	3,08	10	106	81	1000	760	3,00	2,88	3,00	3	a
					100	14	5						100	6	3						3	
2006	296	Omelette au fromage	Cheese omelette	/	100	12	47	1100	4500	3,04	3,65	3,04	100	14	12	1500	1100	3,18	3,04	3,18	3	a
					1000	0	2						1000	2	0						3	
2006	298	Croissant cru	Raw pastry	/	100	40	19	3700	1700	3,57	3,23	3,57	100	9	15	900	1400	2,95	3,15	2,95	3	c
					1000	1	0						1000	1	0			Ne		Ne	3	
2006	299	Pain au raisin cru	Raw pastry	/	100	45	44	5500	5300	3,74	3,72	3,74	100	30	42	2700	4000	3,43	3,60	3,43	3	c
					1000	16	14						1000	0	2						3	
2006	300	Œufs durs	Cooked egg	/	100	11	11	1000	1100	3,00	3,04	3,00	100	19	17	1800	1500	3,26	3,18	3,26	3	a
					1000	0	1						1000	1	0						3	
2006	301	Pain de mie	Bread	/	100	29	45	2700	4200	3,43	3,62	3,43	100	16	20	1500	2000	3,18	3,30	3,18	3	c
					1000	1	1						1000	1	2						3	
2006	338	Far aux pruneaux*	Pastry	/	10	5	10	50	100	1,70	2,00	1,70	10	3	3	30	30	1,48*	1,48*	1,48*	3	b
					100	0	0			Ne		Ne	100	0	0						3	
2006	339	Bavarois au café*	Pastry	/	10	9	10	90	100	1,95	2,00	1,95	10	10	8	120	80	2,08	1,90	2,08	3	b
					100	0	1			Ne		Ne	100	3	0				Ne		3	
2006	341	Eclair vanille*	Pastry	/	10	6	3	60	30	1,78	1,48*	1,78	10	7	5	70	50	1,85	1,70	1,85	3	b
					100	0	1			Ne		Ne	100	1	0			Ne	Ne	Ne	3	
2018	**1153**	**Mayonnaise**	**Mayonnaise**	6,90	10	8	/	80	/	1,90	/	1,90	10	14	/	150	/	2,18	/	2,18	3	a
					100	2	/			Ne		Ne	100	2	/						3	
2018	**1154**	**Flan pâtissier**	**Pastry**	7,00	10	25	/	250	/	2,40	/	2,40	10	23	/	240	/	2,38	/	2,38	3	b
					100	2	/						100	3	/						3	
2018	**1155**	**Far aux pruneaux**	**Pastry**	7,01	1000	62	/	60000	/	4,78	/	4,78	1000	73	/	71000	/	4,85	/	4,85	3	b
					10000	4	/						10000	5	/						3	
2018	**1156**	**Eclair à la vanille**	**Pastry**	7,03	10	30	/	300	/	2,48	/	2,48	10	27	/	260	/	2,41	/	2,41	3	b
					100	3	/						100	1	/						3	
2018	**1157**	**Pâte feuilletée**	**Puff pastry**	6,99	10	80	/	800	/	2,90	/	2,90	10	91	/	910	/	2,96	/	2,96	3	c
					100	8	/						100	9	/						3	
2018	**1158**	**Pâte brisée**	**Puff pastry**	7,03	1000	95	/	95000	/	4,98	/	4,98	1000	115	/	120000	/	5,08	/	5,08	3	c
					10000	10	/						10000	17	/						3	
2018	**1725**	**Eclair au chocolat**	**Pastry**	7,03	1000	26	/	26000	/	4,41	/	4,41	1000	36	/	34000	/	4,53	/	4,53	3	b
					10000	3	/						10000	2	/						3	

♦ Analyses performed according to the COFRAC accreditation

SEAFOOD PRODUCTS																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	229	Terrine de St Jacques	Saint Jacques terrine	/	10	9	1	90	10	1,95	1,00*	1,95	10	6	2	60	20	1,78	1,30	1,78	4	b
					100	1	0			Ne		Ne	100	3	0						4	
2006	238	Nems aux crevettes	RTRH (nems)	/	100	51	40	5500	4100	3,74	3,61	3,74	100	27	30	2700	3500	3,43	3,54	3,43	4	c
					1000	9	5						1000	3	9						4	
2006	239	Rillettes de thon au curry	Tuna rillettes with curry	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	4	b
					100	0	0						100	0	0						4	
2006	240	Rillettes de thon nature	Tuna rillettes	/	10	21	26	210	260	2,32	2,41	2,32	10	22	18	210	200	2,32	2,30	2,32	4	b
					100	2	3						100	1	4						4	
2006	243	Terrine aux gambas	Fish terrine	/	100	62	107	6000	10000	3,78	4,00	3,78	100	7	6	700	600	2,85	2,78	2,85	4	b
					1000	4	7						1000	0	2			Ne	Ne	Ne	4	
2006	244	Terrine au saumon	Salmon terrine	/	10	185	185	1800	1800	3,26	3,26	3,26	10	0	0	<10	<10	<1,00	<1,00	<1,00	4	b
					100	16	13						100	0	0						4	
2006	248	Thon cuit	Cooked tuna	/	100	29	7	2900	1100	3,46	3,04	3,46	100	26	18	2600	1700	3,41	3,23	3,41	4	b
					1000	3	5						1000	3	1						4	
2006	249	Rillettes au curry	Curry rillettes	/	10	1	1	10	10	1,00*	1,00	1,00*	10	1	2	10	20	1,00*	1,30*	1,00*	4	b
					100	0	0						100	0	0						4	
2006	250	Salade aux écrevisses	RTE (Crayfish salad)	/	10	0	1	<10	10	<1,00	1,00	<1,00	10	1	0	10	<10	1,00*	<1,00	1,00*	4	b
					100	0	0						100	0	0						4	
2006	251	Riz au crabe	RTE (rice crab)	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	4	b
					100	0	0						100	0	0						4	
2006	252	Noix de St Jacques	Saint Jacques	/	10	80	85	760	840	2,88	2,92	2,88	10	88	79	920	770	2,96	2,89	2,96	4	a
					100	4	7						100	13	6						4	
2006	253	Noix de St Jacques	Saint Jacques	/	10	55	43	510	410	2,71	2,61	2,71	10	62	72	600	700	2,78	2,85	2,78	4	a
					100	1	2						100	4	5						4	
2006	254	Terrine de saumon	Salmon terrine	/	10	11	10	100	91	2,00	1,96	2,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	4	b
					100	0	0						100	0	0						4	
2006	290	Rillettes de thon	Tuna rillettes	/	10	27	27	270	260	2,43	2,41	2,43	10	32	28	310	290	2,49	2,46	2,49	4	b
					100	3	1						100	2	4						4	
2006	291	Terrine de St Pierre	Fish terrine	/	10	21	18	230	190	2,36	2,28	2,36	10	27	21	260	220	2,41	2,34	2,41	4	b
					100	4	3						100	2	3						4	
2006	527	Terrine de poisson	Fish terrine	/	10	8	12	80	140	1,90	2,15	1,90	10	3	10	30	91	1,48*	1,96	1,48*	4	b
					100	2	3			Ne		Ne	100	1	0						4	
2018	**1159**	**Nems crabe crevette**	**RTRH (spring rolls)**	7,01	100	>150	/	42000	/	4,62	/	4,62	100	>150	/	51000	/	4,71	/	4,71	4	c
					1000	42	/			N'		N'	1000	51	/			N'		N'	4	
2018	**1160**	**Accras de morue**	**RTRH (accras)**	7,07	100	>150	/	33000	/	4,52	/	4,52	100	>150	/	66000	/	4,82	/	4,82	4	c
					1000	33	/			N'		N'	1000	66	/			N'		N'	4	
2018	**1161**	**Encornets farcis**	**RTRH (squid)**	7,00	1000	23	/	24000	/	4,38	/	4,38	1000	30	/	29000	/	4,46	/	4,46	4	c
					10000	3	/						10000	2	/						4	
2018	**1162**	**Paëlla**	**RTRH (Paella)**	7,03	1000	56	/	56000	/	4,75	/	4,75	1000	59	/	60000	/	4,78	/	4,78	4	c
					10000	6	/						10000	7	/						4	
2018	1164	Filet de Tacaud	Raw fish fillet	7,09	10	0	/	<10	/	<1,00	/	<1,00	10	0	/	<10	/	<1,00	/	<1,00	4	a
					100	0	/						100	0	/						4	
2018	1165	Filet de Merlan	Raw fish fillet	7,07	10	0	/	<10	/	<1,00	/	<1,00	10	0	/	<10	/	<1,00	/	<1,00	4	a
					100	0	/						100	0	/						4	
2018	1166	Daurade grise	Raw fish fillet	7,09	10	0	/	<10	/	<1,00	/	<1,00	10	0	/	<10	/	<1,00	/	<1,00	4	a
					100	0	/						100	0	/						4	
2018	**1926**	**Filet de Merlan**	**Fish fillet**	7,08	10	4	/	20	/	1,40	/	1,40	10	52	/	520	/	2,72	/	2,72	4	a
					100	0	/			Ne		Ne	100	5	/						4	

♦ Analyses performed according to the COFRAC accreditation

SEAFOOD PRODUCTS																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2018	**1927**	**Dos de Cabillaud**	**Fish fillet**	7,04	1000	19	/	19000	/	4,28	/	4,28	1000	28	/	26000	/	4,41	/	4,41	4	a
					10000	2	/						10000	1	/						4	
2018	**1928**	**Saumon d'élévage**	**Salmon fillet**	7,05	1000	26	/	25000	/	4,40	/	4,40	1000	37	/	36000	/	4,56	/	4,56	4	a
					10000	1	/						10000	3	/						4	
2018	**1932**	**Filet de cabillaud, riz, poireaux**	**RTRH (fish, rice, leeks)**	7,03	100	23	/	2100	/	3,32	/	3,32	100	10	/	1000	/	3,00	/	3,00	4	c
					1000	0	/						1000	1	/						4	
2018	**1933**	**Saumon cuisiné et pâtes**	**RTRH (Salmon and pastas)**	6,94	10	0	/	<10	/	<1,00	/	<1,00	100	34	/	3600	/	3,56	/	3,56	4	c
					100	0	/						1000	6	/						4	

VEGETABLES																						
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)									
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	209	Tomates surgelées non pelées	Frozen tomatoes	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	c
					100	0	0						100	0	0						5	
2006	210	Choux de Bruxelles	Brussels sprouts	/	10	11	8	120	80	2,08	1,90 Ne	2,08	10	5	7	50	70	1,70 Ne	1,85 Ne	1,70 Ne	5	a
					100	2	0						100	1	0						5	
2006	211	Terrine aux épinards	Spinach terrine	/	10	1	2	10	10	1,00*	1,00*	1,00*	10	1	1	10	10	1,00*	1,00*	1,00*	5	b
					100	0	0						100	0	0						5	
2006	212	Légumes pot au feu	Vegetables	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	213	Poêlée de légumes aux champignons	Cooked mushrooms	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	c
					100	0	0						100	0	0						5	
2006	214	Courgettes	Zucchini	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	215	Haricots verts	Beans	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	216	Tomates en dés	Diced tomatoes	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	217	Piémontaise	RTE (Piémontaise)	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	b
					100	0	0						100	0	0						5	
2006	218	Epinards	Spinach	/	10	1	0	10	<10	1,00*	<1,00	1,00*	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	241	Cake aux épinards	Spinach cake	/	10	89	80	880	800	2,94	2,90	2,94	10	57	61	520	560	2,72	2,75	2,72	5	b
					100	8	8						100	0	0						5	
2006	242	Terrine aux légumes (tomates)	Vegetables terrine	/	10	50	53	500	530	2,70	2,72	2,70	10	2	2	20	20	1,30*	1,30*	1,30*	5	b
					100	5	5						100	0	0						5	
2006	245	Céleri rémoulade	RTE (Celeri)	/	10	2	3	20	30	1,30*	1,48*	1,30*	10	4	2	40	20	1,60 Ne	1,30*	1,60 Ne	5	b
					100	0	0						100	1	0						5	
2006	263	Mélange 4éme gamme	Vegetables	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	a
					100	0	0						100	0	0						5	
2006	264	Tomates non pelées surgelées	Frozen tomatoes	/	10	9	3	90	30	1,95 Ne	1,48	1,95 Ne	10	8	4	80	40	1,90 Ne	1,60 Ne	1,90 Ne	5	c
					100	0	1						100	1	0						5	
2006	265	Carottes râpées	Sliced carrots	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	b
					100	0	0						100	0	0						5	
2006	292	Carottes râpées	Sliced carrots	/	10	5	2	50	20	1,70 Ne	1,30*	1,70 Ne	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	b
					100	0	0						100	0	0						5	
2006	293	Salade de tomates à la Grecque	RTE (tomatoes salad)	/	10	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	<10	<10	<1,00	<1,00	<1,00	5	b
					100	0	0						100	0	0						5	
2006	295	Carottes en vinaigrette	RTE (seasoned carrots)	/	10	9	2	90	20	1,95 Ne	1,30*	1,95 Ne	10	1	0	10	<10	1,00*	<1,00	1,00*	5	b
					100	1	1						100	0	0						5	
2006	332	Macédoine de légumes	RTE (macédoine)	/	10	139	125	1400	1300	3,15	3,11	3,15	10	114	>150	1100	1500	3,04	3,18 Ne	3,04	5	c
					100	13	17						100	11	15						5	
2006	333	Concombres à la crème	RTE (cucumber)	/	10	127	141	1300	1400	3,11	3,15	3,11	10	111	144	1100	1400	3,04	3,15	3,04	5	b
					100	13	14						100	11	8						5	
2006	334	Salade de choux	RTE (cabbage)	/	10	>150	>150	2200	2100	3,34 N'	3,32 N'	3,34 N'	10	>150	>150	1400	2200	3,15 N'	3,34 N'	3,15 N'	5	b
					100	22	21						100	14	22						5	
2006	335	Tarte provençale	RTRH (vegetables tart)	/	10	>150	>150	1300	2300	3,11 N'	3,36 N'	3,11 N'	10	>150	>150	3700	3000	3,57 N'	3,48 N'	3,57 N'	5	c
					100	13	23						100	37	30						5	
2006	336	Julienne de légumes	Vegetables	/	10	>150	>150	2700	2700	3,43 N'	3,43 N'	3,43 N'	10	>150	>150	3300	5400	3,52 N'	3,73 N'	3,52 N'	5	c
					100	27	37						100	33	54						5	

♦ Analyses performed according to the COFRAC accreditation

VEGETABLES																							
					V08-060♦								Alternative method : Test 3M™ Petrifilm™ Coliform Count plate (24 h)										
Analysis date	Sample N°	Product (French name)	Product	Initial suspension pH	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Dilution	Rep 1	Rep 2	CFU/g Rep 1	CFU/g Rep 2	log CFU/g Rep 1	log CFU/g Rep 2	log CFU/g Rep1 kept for interpretation	Category	Type
2006	337	Flan aux légumes	RTRH (vegetables flan)	/	10	>150	>150	9500	9200	3,98	3,96	3,98	10	>150	>150	12000	8200	4,08	3,91	4,08	5	b
					100	95	92			N'	N'	N'	100	121	82			N'	N'	N'	5	
2006	528	Mélange de légumes	Mixed vegetables	/	10	10	6	91	60	1,96	1,78	1,96	10	5	3	50	30	1,70	1,48*	1,70	5	c
					100	0	1				Ne		100	0	0			Ne		Ne	5	
2018	991	Persil	Parsley	6,79	10	2	/	20	/	1,30*	/	1,30*	10	2	/	20	/	1,30*	/	1,30*	5	a
					100	0	/						100	0	/						5	
2018	**1295**	**Haricots verts surgelés**	**Frozen green beans**	7,03	10	26	/	260	/	2,41	/	2,41	100	25	/	2500	/	3,40	/	3,40	5	a
					100	2	/						1000	3	/						5	
2018	**1296**	**Champignons surgelés**	**Frozen mushrooms**	7,07	100	1	/	100	/	2,00*	/	2,00*	100	3	/	300	/	2,48*	/	2,48*	5	a
					1000	0	/						1000	0	/						5	
2018	1719	Epinards hachés crème	Cooked spinach	7,05	10	10	/	100	/	2,00	/	2,00	10	10	/	91	/	1,96	/	1,96	5	c
					100	1	/						100	0	/						5	
2018	**1726**	**Boulettes aux légumes**	**RTRH (vegetables meal)**	6,99	10	3	/	30	/	1,48*	/	1,48*	10	1	/	10	/	1,00*	/	1,00*	5	c
					100	2	/						100	0	/						5	
2018	**1727**	**Galettes lentilles carottes**	**RTRH (vegetables meal)**	6,95	100	0	/	<100	/	<2,00	/	<2,00	10	48	/	490	/	2,69	/	2,69	5	c
					1000	0	/						100	6	/						5	
2018	**1929**	**Aubergine**	**Eggplant**	7,04	10	30	/	300	/	2,48	/	2,48	10	61	/	620	/	2,79	/	2,79	5	a
					100	3	/						100	7	/						5	
2018	**1930**	**Courgette**	**Zucchini**	7,05	100	23	/	2500	/	3,40	/	3,40	100	77	/	8300	/	3,92	/	3,92	5	a
					1000	4	/						1000	14	/						5	
2018	**1931**	**Tomate**	**Tomato**	7,00	10	120	/	1200	/	3,08	/	3,08	100	53	/	5700	/	3,76	/	3,76	5	a
					100	11	/						1000	10	/						5	
2018	**2118**	**Falafels pois chiches épinards**	**RTRH (falafels)**	6,95	10	60	/	600	/	2,78	/	2,78	10	64	/	660	/	2,82	/	2,82	5	c
					100	6	/						100	9	/						5	
2018	**2119**	**Couscous végétarien**	**RTRH (vegetarian couscous)**	7,00	10000	58	/	570000	/	5,76	/	5,76	10000	51	/	480000	/	5,68	/	5,68	5	c
					100000	5	/						100000	2	/						5	
2018	**2120**	**Coleslaw**	**RTE (Coleslaw)**	6,87	10	115	/	1100	/	3,04	/	3,04	100	17	/	1600	/	3,20	/	3,20	5	b
					100	9	/						1000	1	/						5	
2018	**2121**	**Carottes râpées**	**RTE (Grated carrots)**	6,83	1000	16	/	15000	/	4,18	/	4,18	1000	21	/	21000	/	4,32	/	4,32	5	b
					10000	1	/						10000	2	/						5	

Appendix 3 - Relative trueness study: calculations

Category	Type	N°sample	Log cfu/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			V08-060	3M Petrifilm-CC			<4 CFU/ plate	<or> threshold corrected values				
1	a	157	0,00		#N/A			1,00	#N/A		0,50	1,00
	a	159	2,00	1,96	1,98	-0,04			#N/A		#N/A	
	a	162	1,30		#N/A		1,78		1,54	0,48	#N/A	
	a	163	1,60	1,60	1,60	0,00			#N/A		#N/A	
	a	164	1,70	2,18	1,94	0,48			#N/A		#N/A	
	a	165	2,15	2,15	2,15	0,00			#N/A		#N/A	
	a	166	2,91	2,99	2,95	0,08			#N/A		#N/A	
	a	167	2,63	2,62	2,63	-0,01			#N/A		#N/A	
	a	168	2,56	2,40	2,48	-0,16			#N/A		#N/A	
	a	169	2,49	2,46	2,48	-0,03			#N/A		#N/A	
	a	170	2,76	2,66	2,71	-0,09			#N/A		#N/A	
	a	171	1,30		#N/A		1,00		1,15	-0,30	#N/A	
	a	175	1,60	1,60	1,60	0,00			#N/A		#N/A	
	b	172	0,00		#N/A			1,30	#N/A		0,65	
	b	173	1,96	1,78	1,87	-0,18			#N/A		#N/A	
	b	174	1,70		#N/A		1,00		1,35	-0,70	#N/A	
	b	992	2,04	2,20	2,12	0,16			#N/A		#N/A	
	b	**1720**	0,00		#N/A		1,00		0,50	1,00	#N/A	
	b	**1721**	2,65	3,69	3,17	1,04			#N/A		#N/A	
	b	**1722**	2,00		#N/A		4,48		3,24	2,48	#N/A	
	b	**2116**	4,83	4,80	4,81	-0,03			#N/A		#N/A	
	b	**2117**	4,46	4,32	4,39	-0,14			#N/A		#N/A	
	c	154	1,00		#N/A		1,00		1,00	0,00	#N/A	
	c	155	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	156	1,30		#N/A		1,30		1,30	0,00	#N/A	
	c	158	1,30		#N/A		1,60		1,45	0,30	#N/A	
	c	160	2,00	1,60	1,80	-0,40			#N/A		#N/A	
	c	161	0,00		#N/A			1,30	#N/A		0,65	1,30
	c	989	3,04	3,08	3,06	0,04			#N/A		#N/A	
	c	990	2,54	2,57	2,56	0,02			#N/A		#N/A	
	c	1717	2,54	2,72	2,63	0,17			#N/A		#N/A	
	c	1718	2,11	2,58	2,35	0,47			#N/A		#N/A	
Average category 1						**0,07**						
Standard deviation of differences category 1						**0,30**						
2	a	230	4,11	3,95	4,03	-0,16			#N/A		#N/A	
	a	262	1,96	1,85	1,90	-0,11			#N/A		#N/A	
	a	266	4,08	4,00	4,04	-0,08			#N/A		#N/A	
	a	1167	2,00	1,60	1,80	-0,40			#N/A		#N/A	
	a	1168	1,60		#N/A		1,00		1,30	-0,60	#N/A	
	a	**1723**	1,60	3,11	2,36	1,51			#N/A		#N/A	
	a	**1724**	3,87	3,83	3,85	-0,04			#N/A		#N/A	
	b	231	3,51	3,66	3,58	0,16			#N/A		#N/A	
	b	232	4,00	4,30	4,15	0,30			#N/A		#N/A	
	b	233	3,00		#N/A			2,00	#N/A		2,50	-1,00
	b	234	4,56		#N/A			2,00	#N/A		3,28	-2,56
	b	235	2,00		#N/A			1,00	#N/A		1,50	-1,00
	b	236	7,30	7,30	7,30	0,00			#N/A		#N/A	
	b	267	4,04	4,28	4,16	0,24			#N/A		#N/A	
	b	268	5,18	4,89	5,03	-0,29			#N/A		#N/A	
	b	269	6,32	5,79	6,05	-0,54			#N/A		#N/A	
	c	237	4,32	4,23	4,28	-0,09			#N/A		#N/A	
	c	246	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	255	2,41	2,30	2,36	-0,11			#N/A		#N/A	
	c	256	2,69	2,20	2,45	-0,49			#N/A		#N/A	
	c	**1293**	2,68	2,56	2,62	-0,12			#N/A		#N/A	
	c	**1294**	3,41	3,48	3,45	0,06			#N/A		#N/A	
Average category 2						**-0,01**						
Standard deviation of differences category 2						**0,45**						

Category	Type	N°sample	Log cfu/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			V08-060	3M Petrifilm-CC			<4 CFU/ plate	<or> threshold corrected values				
3	a	258	3,30	3,36	3,33	0,06			#N/A		#N/A	
	a	261	3,08	3,00	3,04	-0,08			#N/A		#N/A	
	a	296	3,04	3,18	3,11	0,13			#N/A		#N/A	
	a	300	3,00	3,26	3,13	0,26			#N/A		#N/A	
	a	**1153**	1,90	2,18	2,04	0,27			#N/A		#N/A	
	b	247	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	338	1,70		#N/A		1,48		1,59	-0,22	#N/A	
	b	339	1,95	2,08	2,02	0,12			#N/A		#N/A	
	b	341	1,78	1,85	1,81	0,07			#N/A		#N/A	
	b	**1154**	2,40	2,38	2,39	-0,02			#N/A		#N/A	
	b	**1155**	4,78	4,85	4,81	0,07			#N/A		#N/A	
	b	**1156**	2,48	2,41	2,45	-0,06			#N/A		#N/A	
	b	**1725**	4,41	4,53	4,47	0,12			#N/A		#N/A	
	c	298	3,57	2,95	3,26	-0,61			#N/A		#N/A	
	c	299	3,74	3,43	3,59	-0,31			#N/A		#N/A	
	c	301	3,43	3,18	3,30	-0,26			#N/A		#N/A	
	c	**1157**	2,90	2,96	2,93	0,06			#N/A		#N/A	
	c	**1158**	4,98	5,08	5,03	0,10			#N/A		#N/A	
Average category 3						**0,00**						
Standard deviation of differences category 3						**0,23**						
4	a	252	2,88	2,96	2,92	0,08			#N/A		#N/A	
	a	253	2,71	2,78	2,74	0,07			#N/A		#N/A	
	a	1164	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	1165	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	1166	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	**1926**	1,40	2,72	2,01	1,31			#N/A		#N/A	
	a	**1927**	4,28	4,41	4,35	0,14			#N/A		#N/A	
	a	**1928**	4,40	4,56	4,48	0,16			#N/A		#N/A	
	b	229	1,95	1,78	1,87	-0,18			#N/A		#N/A	
	b	239	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	240	2,32	2,32	2,32	0,00			#N/A		#N/A	
	b	243	3,78	2,85	3,31	-0,93			#N/A		#N/A	
	b	244	3,26		#N/A			0,00	#N/A		1,63	-3,26
	b	248	3,46	3,41	3,44	-0,05			#N/A		#N/A	
	b	249	1,00		#N/A		1,00		1,00	0,00	#N/A	
	b	250	0,00		#N/A			1,00	#N/A		0,50	1,00
	b	251	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	254	2,00		#N/A			0,00	#N/A		1,00	-2,00
	b	290	2,43	2,49	2,46	0,06			#N/A		#N/A	
	b	291	2,36	2,41	2,39	0,05			#N/A		#N/A	
	b	527	1,90		#N/A		1,48		1,69	-0,42	#N/A	
	b	238	3,74	3,43	3,59	-0,31						
	c	**1159**	4,62	4,71	4,67	0,08			#N/A		#N/A	
	c	**1160**	4,52	4,82	4,67	0,30			#N/A		#N/A	
	c	**1161**	4,38	4,46	4,42	0,08			#N/A		#N/A	
	c	**1162**	4,75	4,78	4,76	0,03			#N/A		#N/A	
	c	**1932**	3,32	3,00	3,16	-0,32			#N/A		#N/A	
	c	**1933**	0,00		#N/A			3,56	#N/A		1,78	3,56
Average category 4						**0,03**						
Standard deviation of differences category 4						**0,43**						

Category	Type	N°sample	Log cfu/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			V08-060	3M Petrifilm-CC			<4 CFU/ plate	<or> threshold corrected values				
5	a	210	2,08	1,70	1,89	-0,38			#N/A		#N/A	
	a	212	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	214	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	215	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	216	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	218	1,00		#N/A			0,00	#N/A		0,50	-1,00
	a	263	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	991	1,30		#N/A		1,30		1,30	0,00	#N/A	
	a	**1295**	2,41	3,40	2,91	0,98			#N/A		#N/A	
	a	**1296**	2,00		#N/A		2,48		2,24	0,48	#N/A	
	a	**1929**	2,48	2,79	2,63	0,32			#N/A		#N/A	
	a	**1930**	3,40	3,92	3,66	0,52			#N/A		#N/A	
	a	**1931**	3,08	3,76	3,42	0,68			#N/A		#N/A	
	b	211	1,00				1,00		1,00	0,00	#N/A	
	b	217	0,00					0,00	#N/A		0,00	0,00
	b	241	2,94	2,72	2,83	-0,23			#N/A		#N/A	
	b	242	2,70		#N/A		1,30		2,00	-1,40	#N/A	
	b	245	1,30		#N/A		1,60		1,45	0,30	#N/A	
	b	265	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	292	1,70		#N/A			0,00	#N/A		0,85	-1,70
	b	293	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	295	1,95		#N/A	-0,95	1,00		1,48	-0,95	#N/A	
	b	333	3,11	3,04	3,08	-0,07			#N/A		#N/A	
	b	334	3,34	3,15	3,24	-0,20			#N/A		#N/A	
	b	337	3,98	4,08	4,03	0,10			#N/A		#N/A	
	b	**2120**	3,04	3,20	3,12	0,16			#N/A		#N/A	
	b	**2121**	4,18	4,32	4,25	0,15			#N/A		#N/A	
	c	209	0,00					0,00	#N/A		0,00	0,00
	c	213	0,00					0,00	#N/A		0,00	0,00
	c	264	1,95	1,90	1,93	-0,05			#N/A		#N/A	
	c	332	3,15	3,04	3,09	-0,10			#N/A		#N/A	
	c	335	3,11	3,57	3,34	0,45			#N/A		#N/A	
	c	336	3,43	3,52	3,47	0,09			#N/A		#N/A	
	c	528	1,96	1,70	1,83	-0,26			#N/A		#N/A	
	c	1719	2,00	1,96	1,98	-0,04			#N/A		#N/A	
	c	**1726**	1,48		#N/A		1,00		1,24	-0,48	#N/A	
	c	**1727**	1,00		#N/A			2,69	#N/A		1,85	1,69
	c	**2118**	2,78	2,82	2,80	0,04			#N/A		#N/A	
	c	**2119**	5,76	5,68	5,72	-0,07			#N/A		#N/A	
Average category 5						**0,06**						
Standard deviation of differences category 5						**0,41**						
Average all categories				Dall		**0,03**						
Standard deviation of differences all categories				SDAll		**0,37**						

β=95%	n all	89			
	T(0,05;70)=	1,987289823			
		0,745661023	Upper limit	Lower limit	Linear
	Average (minimal value)	**0,00**	0,77	-0,71	0,03
	Average (maximal value)	**10,00**	0,77	-0,71	0,03

Category	n	T(0,05;70)=	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	20	2,09	0,30	0,65	0,07	-0,58	0,72
2	17	2,12	0,45	0,99	-0,01	-1,00	0,98
3	16	2,13	0,23	0,50	0,00	-0,50	0,49
4	17	2,12	0,43	0,94	0,03	-0,91	0,98
5	19	2,10	0,41	0,89	0,06	-0,83	0,95
All categories	89	1,99	0,37	0,74	0,03	-0,71	0,77

Appendix 4 - Accuracy profile study: raw data

Matrix	Strain	Level	N°sample	V08-60♦				3M Petrifilm CC - Thermotolerant coliforms			
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution	cfu/plate	cfu/g	log cfu/g
Green peas Batch 1 Aerobic mesophilic flora: <10 CFU/g	*Escherichia coli* 19	1	1462	10	26	280	2,45	10	30	320	2,51
				100	5			100	5		
			1463	10	28	260	2,41	10	36	330	2,52
				100	1			100	0		
			1464	10	34	340	2,53	10	32	320	2,51
				100	3			100	3		
			1465	10	22	260	2,41	10	40	380	2,58
				100	6			100	2		
			1466	10	30	300	2,48	10	20	240	2,38
				100	3			100	6		
		2	1467	100	95	9600	3,98	100	98	10000	4,00
				1000	11			1000	12		
			1468	100	100	9800	3,99	100	116	12000	4,08
				1000	8			1000	15		
			1469	100	80	8300	3,92	100	95	9400	3,97
				1000	11			1000	8		
			1470	100	89	9200	3,96	100	108	10000	4,00
				1000	12			1000	6		
			1471	100	83	8500	3,93	100	105	11000	4,04
				1000	10			1000	14		
		3	1472	1000	74	80000	4,90	1000	85	84000	4,92
				10000	14			10000	7		
			1473	1000	60	59000	4,77	1000	84	83000	4,92
				10000	5			10000	7		
			1474	1000	67	66000	4,82	1000	84	82000	4,91
				10000	6			10000	6		
			1475	1000	76	76000	4,88	1000	89	86000	4,93
				10000	8			10000	6		
			1476	1000	80	79000	4,90	1000	89	90000	4,95
				10000	7			10000	10		
Green peas Batch 2 Aerobic mesophilic flora: <10 CFU/g		1	1477	10	17	190	2,28	10	36	360	2,56
				100	4			100	3		
			1478	10	14	150	2,18	10	31	310	2,49
				100	2			100	3		
			1479	10	15	150	2,18	10	28	280	2,45
				100	1			100	3		
			1480	10	18	170	2,23	10	25	250	2,40
				100	1			100	2		
			1481	10	14	140	2,15	10	25	230	2,36
				100	1			100	0		
		2	1482	100	37	3700	3,57	100	81	7800	3,89
				1000	4			1000	5		
			1483	100	47	5100	3,71	100	66	6700	3,83
				1000	9			1000	8		
			1484	100	54	5500	3,74	100	66	7300	3,86
				1000	7			1000	14		
			1485	100	58	5800	3,76	100	66	7200	3,86
				1000	6			1000	13		
			1486	100	60	6200	3,79	100	68	6700	3,83
				1000	8			1000	6		
		3	1487	1000	44	44000	4,64	1000	70	71000	4,85
				10000	4			10000	8		
			1488	1000	60	58000	4,76	1000	81	81000	4,91
				10000	4			10000	8		
			1489	1000	54	55000	4,74	1000	75	80000	4,90
				10000	7			10000	13		
			1490	1000	44	43000	4,63	1000	76	81000	4,91
				10000	3			10000	13		
			1491	1000	45	45000	4,65	1000	78	75000	4,88
				10000	5			10000	5		

♦ Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	N°sample	V08-60♦				3M Petrifilm CC			
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution	cfu/plate	cfu/g	log cfu/g
Pasteurized whole milk Batch 1 Aerobic mesophilic flora: 20 CFU/g	*Cronobacter sakazakii* Ad1418	1	833	10	18	170	2,23	10	30	300	2,48
				100	1			100	3		
			834	10	12	120	2,08	10	18	170	2,23
				100	1			100	1		
			835	10	18	220	2,34	10	23	230	2,36
				100	6			100	2		
			836	10	27	250	2,40	10	23	220	2,34
				100	0			100	1		
			837	10	17	170	2,23	10	30	300	2,48
				100	2			100	3		
		2	838	100	75	7100	3,85	100	79	8100	3,91
				1000	3			1000	10		
			839	100	74	7500	3,88	100	89	8800	3,94
				1000	8			1000	8		
			840	100	86	8600	3,93	100	78	7500	3,88
				1000	9			1000	4		
			841	100	71	6900	3,84	100	89	9100	3,96
				1000	5			1000	11		
			842	100	74	7400	3,87	100	80	7800	3,89
				1000	7			1000	6		
		3	843	1000	61	61000	4,79	1000	64	75000	4,88
				10000	6			10000	18		
			844	1000	68	70000	4,85	1000	92	85000	4,93
				10000	9			10000	2		
			845	1000	95	95000	4,98	1000	72	73000	4,86
				10000	9			10000	8		
			846	1000	72	75000	4,88	1000	76	84000	4,92
				10000	10			10000	16		
			847	1000	56	55000	4,74	1000	72	74000	4,87
				10000	5			10000	9		
Pasteurized whole milk Batch 2 Aerobic mesophilic flora: <10 CFU/g		1	848	10	24	230	2,36	10	19	190	2,28
				100	1			100	2		
			849	10	14	150	2,18	10	20	190	2,28
				100	2			100	1		
			850	10	21	210	2,32	10	11	110	2,04
				100	2			100	1		
			851	10	14	150	2,18	10	19	190	2,28
				100	2			100	2		
			852	10	20	200	2,30	10	23	220	2,34
				100	2			100	1		
		2	853	100	65	6500	3,81	100	61	5800	3,76
				1000	6			1000	3		
			854	100	55	5300	3,72	100	60	6000	3,78
				1000	3			1000	6		
			855	100	48	5000	3,70	100	51	5200	3,72
				1000	7			1000	6		
			856	100	45	4500	3,65	100	55	5400	3,73
				1000	5			1000	4		
			857	100	30	3500	3,54	100	51	4900	3,69
				1000	8			1000	3		
		3	858	1000	41	41000	4,61	1000	61	60000	4,78
				10000	4			10000	5		
			859	1000	43	46000	4,66	1000	46	45000	4,65
				10000	8			10000	4		
			860	1000	53	52000	4,72	1000	51	49000	4,69
				10000	4			10000	3		
			861	1000	54	50000	4,70	1000	78	78000	4,89
				10000	1			10000	8		
			862	1000	86	81000	4,91	1000	37	39000	4,59
				10000	3			10000	6		

♦ Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	N°sample	V08-60♦				3M Petrifilm CC			
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution	cfu/plate	cfu/g	log cfu/g
Pasteurized whole liquid egg Batch 1 Aerobic mesophilic flora: 10 CFU/g	*Klebsiella pneumoniae* 83	1	1327	10	23	220	2,34	10	33	310	2,49
				100	1			100	1		
			1328	10	29	310	2,49	10	28	260	2,41
				100	5			100	1		
			1329	10	21	240	2,38	10	31	280	2,45
				100	5			100	0		
			1330	10	33	310	2,49	10	27	260	2,41
				100	1			100	1		
			1331	10	15	160	2,20	10	17	190	2,28
				100	3			100	4		
		2	1332	100	79	7900	3,90	100	76	7500	3,88
				1000	8			1000	6		
			1333	100	73	7300	3,86	100	95	9600	3,98
				1000	7			1000	11		
			1334	100	96	9600	3,98	100	86	8700	3,94
				1000	10			1000	10		
			1335	100	88	8200	3,91	100	88	8400	3,92
				1000	2			1000	4		
			1336	100	101	10000	4,00	100	85	8500	3,93
				1000	14			1000	8		
		3	1337	1000	71	72000	4,86	1000	66	70000	4,85
				10000	8			10000	11		
			1338	1000	76	79000	4,90	1000	79	82000	4,91
				10000	11			10000	11		
			1339	1000	82	83000	4,92	1000	84	86000	4,93
				10000	9			10000	11		
			1340	1000	86	85000	4,93	1000	68	70000	4,85
				10000	7			10000	9		
			1341	1000	92	92000	4,96	1000	76	73000	4,86
				10000	9			10000	4		
Pasteurized whole liquid egg Batch 2 Aerobic mesophilic flora: <10 CFU/g		1	1342	10	23	240	2,38	10	29	280	2,45
				100	3			100	2		
			1343	10	30	290	2,46	10	30	280	2,45
				100	2			100	1		
			1344	10	19	190	2,28	10	24	270	2,43
				100	2			100	6		
			1345	10	25	240	2,38	10	18	170	2,23
				100	1			100	1		
			1346	10	19	190	2,28	10	26	270	2,43
				100	2			100	4		
		2	1347	100	84	8200	3,91	100	90	8300	3,92
				1000	6			1000	1		
			1348	100	94	9800	3,99	100	96	9300	3,97
				1000	14			1000	6		
			1349	100	89	9100	3,96	100	69	6900	3,84
				1000	11			1000	7		
			1350	100	85	8500	3,93	100	80	7900	3,90
				1000	8			1000	7		
			1351	100	77	8200	3,91	100	92	9100	3,96
				1000	13			1000	8		
		3	1352	1000	104	99000	5,00	1000	60	64000	4,81
				10000	5			10000	10		
			1353	1000	96	97000	4,99	1000	110	110000	5,04
				10000	11			10000	9		
			1354	1000	110	110000	5,04	1000	83	85000	4,93
				10000	12			10000	10		
			1355	1000	90	92000	4,96	1000	80	83000	4,92
				10000	11			10000	11		
			1356	1000	86	90000	4,95	1000	83	84000	4,92
				10000	13			10000	9		

♦ Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	N°sample	V08-60♦				3M Petrifilm CC			
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution	cfu/plate	cfu/g	log cfu/g
Raw fish fillet Batch 1 Aerobic mesophilic flora: 1,4 10^3 CFU/g	*Escherichia coli* Ad228	1	1089	10	34	350	2,54	10	37	360	2,56
				100	4			100	3		
			1090	10	30	320	2,51	10	25	260	2,41
				100	5			100	4		
			1091	10	27	290	2,46	10	34	330	2,52
				100	5			100	2		
			1092	10	38	390	2,59	10	27	260	2,41
				100	5			100	2		
			1093	10	34	350	2,54	10	45	420	2,62
				100	4			100	1		
		2	1094	100	70	6900	3,84	100	87	8500	3,93
				1000	6			1000	7		
			1095	100	80	7800	3,89	100	107	11000	4,04
				1000	6			1000	13		
			1096	100	72	7500	3,88	100	101	9900	4,00
				1000	10			1000	8		
			1097	100	79	8100	3,91	100	106	10000	4,00
				1000	10			1000	7		
			1098	100	91	9000	3,95	100	93	8800	3,94
				1000	8			1000	4		
		3	1099	1000	59	57000	4,76	1000	95	95000	4,98
				10000	4			10000	9		
			1100	1000	95	89000	4,95	1000	102	99000	5,00
				10000	3			10000	7		
			1101	1000	84	79000	4,90	1000	114	110000	5,04
				10000	3			10000	8		
			1102	1000	98	98000	4,99	1000	94	95000	4,98
				10000	10			10000	10		
			1103	1000	92	95000	4,98	1000	86	84000	4,92
				10000	12			10000	6		
Raw fish fillet Batch 2 Aerobic mesophilic flora: 3,4 10^3 CFU/g		1	1104	10	26	250	2,40	10	23	240	2,38
				100	1			100	3		
			1105	10	18	160	2,20	10	30	310	2,49
				100	0			100	4		
			1106	10	13	150	2,18	10	22	260	2,41
				100	3			100	7		
			1107	10	25	250	2,40	10	16	160	2,20
				100	2			100	2		
			1108	10	14	150	2,18	10	22	230	2,36
				100	2			100	3		
		2	1109	100	40	3800	3,58	100	75	7800	3,89
				1000	2			1000	11		
			1110	100	38	4100	3,61	100	64	6500	3,81
				1000	7			1000	8		
			1111	100	57	5200	3,72	100	65	6300	3,80
				1000	0			1000	4		
			1112	100	63	6000	3,78	100	100	9900	4,00
				1000	3			1000	9		
			1113	100	51	5200	3,72	100	83	8100	3,91
				1000	6			1000	6		
		3	1114	1000	49	49000	4,69	1000	80	79000	4,90
				10000	5			10000	7		
			1115	1000	60	64000	4,81	1000	97	99000	5,00
				10000	10			10000	12		
			1116	1000	38	42000	4,62	1000	94	95000	4,98
				10000	8			10000	11		
			1117	1000	57	54000	4,73	1000	88	84000	4,92
				10000	2			10000	4		
			1118	1000	59	61000	4,79	1000	85	81000	4,91
				10000	8			10000	4		

♦ Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	N°sample	V08-60♦				3M Petrifilm CC			
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution	cfu/plate	cfu/g	log cfu/g
Green peas Batch 1 Aerobic mesophilic flora: <10 CFU/g	*Escherichia coli* 19	1	1462	10	26	280	2,45	10	30	320	2,51
				100	5			100	5		
			1463	10	28	260	2,41	10	36	330	2,52
				100	1			100	0		
			1464	10	34	340	2,53	10	32	320	2,51
				100	3			100	3		
			1465	10	22	260	2,41	10	40	380	2,58
				100	6			100	2		
			1466	10	30	300	2,48	10	20	240	2,38
				100	3			100	6		
		2	1467	100	95	9600	3,98	100	98	10000	4,00
				1000	11			1000	12		
			1468	100	100	9800	3,99	100	116	12000	4,08
				1000	8			1000	15		
			1469	100	80	8300	3,92	100	95	9400	3,97
				1000	11			1000	8		
			1470	100	89	9200	3,96	100	108	10000	4,00
				1000	12			1000	6		
			1471	100	83	8500	3,93	100	105	11000	4,04
				1000	10			1000	14		
		3	1472	1000	74	80000	4,90	1000	85	84000	4,92
				10000	14			10000	7		
			1473	1000	60	59000	4,77	1000	84	83000	4,92
				10000	5			10000	7		
			1474	1000	67	66000	4,82	1000	84	82000	4,91
				10000	6			10000	6		
			1475	1000	76	76000	4,88	1000	89	86000	4,93
				10000	8			10000	6		
			1476	1000	80	79000	4,90	1000	89	90000	4,95
				10000	7			10000	10		
Green peas Batch 2 Aerobic mesophilic flora: <10 CFU/g		1	1477	10	17	190	2,28	10	36	360	2,56
				100	4			100	3		
			1478	10	14	150	2,18	10	31	310	2,49
				100	2			100	3		
			1479	10	15	150	2,18	10	28	280	2,45
				100	1			100	3		
			1480	10	18	170	2,23	10	25	250	2,40
				100	1			100	2		
			1481	10	14	140	2,15	10	25	230	2,36
				100	1			100	0		
		2	1482	100	37	3700	3,57	100	81	7800	3,89
				1000	4			1000	5		
			1483	100	47	5100	3,71	100	66	6700	3,83
				1000	9			1000	8		
			1484	100	54	5500	3,74	100	66	7300	3,86
				1000	7			1000	14		
			1485	100	58	5800	3,76	100	66	7200	3,86
				1000	6			1000	13		
			1486	100	60	6200	3,79	100	68	6700	3,83
				1000	8			1000	6		
		3	1487	1000	44	44000	4,64	1000	70	71000	4,85
				10000	4			10000	8		
			1488	1000	60	58000	4,76	1000	81	81000	4,91
				10000	4			10000	8		
			1489	1000	54	55000	4,74	1000	75	80000	4,90
				10000	7			10000	13		
			1490	1000	44	43000	4,63	1000	76	81000	4,91
				10000	3			10000	13		
			1491	1000	45	45000	4,65	1000	78	75000	4,88
				10000	5			10000	5		

♦ Analyses performed according to the COFRAC accreditation

Appendix 5 - Accuracy profile study: summarized results

(Food) Category 1	Meat products
(Food) Type 1	Raw meat (Ground beef)

			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
959-963	Ground beef	1	60	200	220	180	180	280	500	400	380	410
974-978	Ground beef	1	110	80	160	210	170	270	250	260	360	440
964-968	Ground beef	2	7500	7900	7300	4600	4500	10000	9300	9600	8500	9300
979-983	Ground beef	2	6800	5500	5500	5500	5600	9300	9200	8300	8500	7900
969-973	Ground beef	3	76000	56000	77000	75000	75000	80000	98000	120000	71000	82000
984-988	Ground beef	3	53000	82000	65000	61000	41000	110000	94000	92000	97000	92000

(Food) Category 2	Milk products
(Food) Type 2	Pasteurized (Milk)

			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
833-837	Pasteurized milk	1	170	120	220	250	170	300	170	230	220	300
848-852	Pasteurized milk	1	230	150	210	150	200	190	190	110	190	220
838-842	Pasteurized milk	2	7100	7500	8600	6900	7400	8100	8800	7500	9100	7800
853-857	Pasteurized milk	2	6500	5300	5000	4500	3500	5800	6000	5200	5400	4900
843-847	Pasteurized milk	3	61000	70000	95000	75000	55000	75000	85000	73000	84000	74000
858-862	Pasteurized milk	3	41000	46000	52000	50000	81000	60000	45000	49000	78000	39000

(Food) Category 3	Egg products and pastries
(Food) Type 3	Liquid egg (Pasteurized whole liquid egg)

			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
1327-1331	Pasteurized whole liquid egg	1	220	310	240	310	160	310	260	280	260	190
1342-1346	Pasteurized whole liquid egg	1	240	290	190	240	190	280	280	270	170	270
1332-1336	Pasteurized whole liquid egg	2	7900	7300	9600	8200	10000	7500	600	8700	8400	8500
1347-1351	Pasteurized whole liquid egg	2	8200	9800	9100	8500	8200	8300	9300	6900	7900	9100
1337-1341	Pasteurized whole liquid egg	3	72000	79000	83000	85000	92000	70000	82000	86000	70000	73000
1352-1356	Pasteurized whole liquid egg	3	99000	97000	110000	92000	90000	64000	110000	85000	83000	84000

(Food) Category 4	Seafood products
(Food) Type 4	Raw fish (fillet)

			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
1089-1093	Raw fish fillet	1	350	320	290	390	350	360	260	330	260	420
1104-1108	Raw fish fillet	1	250	160	150	250	150	240	310	260	160	230
1094-1098	Raw fish fillet	2	6900	7800	7500	8100	9000	8500	11000	9900	10000	8800
1109-1113	Raw fish fillet	2	3800	4100	5200	6000	5200	7800	6500	6300	9900	8100
1099-1103	Raw fish fillet	3	57000	89000	79000	98000	95000	95000	99000	110000	95000	84000
1114-1118	Raw fish fillet	3	49000	64000	42000	54000	61000	79000	99000	95000	84000	81000

(Food) Category 5	Vegetables
(Food) Type 5	Raw (Green peas)

			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
1462-1466	Green peas	1	280	260	340	260	300	320	330	320	380	240
1477-1481	Green peas	1	190	150	150	170	140	360	310	280	250	230
1467-1470	Green peas	2	9600	9800	8300	9200	8500	10000	12000	9400	10000	11000
1482-1486	Green peas	2	3700	5100	5500	5800	6200	7800	6700	7300	6700	7300
1472-1476	Green peas	3	80000	59000	66000	76000	79000	84000	83000	82000	86000	90000
1487-1491	Green peas	3	44000	58000	55000	43000	45000	71000	81000	80000	81000	75000

Appendix 6 – Inclusivity / Exclusivity: raw data

	INCLUSIVITY						
	N°	Strain	Origin	PCA	VRBL		3M Petrifilm CC	
				log CFU/ml	log CFU/ml	Recovery (%)	log CFU/ml	Recovery (%)
1997	1	*Escherichia coli* CIP 54127	/	9,23	8,49	18	8,74	32
	2	*Escherichia coli* adria 1	Sausage	9,23	8,53	20	8,75	33
	3	*Escherichia coli* O157:H7 CIP 103571	/	9,26	8,87	41	8,93	47
	4	*Escherichia coli* adria 12	Turkey meat	9,34	8,93	38	9,01	47
	5	*Escherichia coli* adria 14	Raw milk	9,28	8,85	37	9,02	55
	6	*Enterobacter cloacae* adria 58	/	9,26	8,96	51	9,06	64
	7	*Enterobacter aerogenes* CIP 103659	/	9,04	8,67	42	8,95	81
	8	*Cronobacter sakazakii* adria 87	RTRH (meat)	9,08	7,7	4	9,02	87
	9	*Klebsiella pneumoniae* adria 89	Chantilly	8,88	8,78	79	8,76	76
	10	*Escherichia coli* adria 91	RTRH (Tomatoes pork)	8,69	7,69	10	8,19	32
	11	*Klebsiella pneumoniae* adria 92	Pastry	8,79	8,51	53	8,5	52
	12	*Escherichia coli* adria 93	RTRH (fish)	8,65	7,83	15	8,18	33
	13	*Escherichia coli* adria 94	Cheese	8,88	8,01	14	8,4	33
	14	*Cronobacter sakazakii* adria 95	White cheese	8,65	8,91	179	8,94	193
	15	*Escherichia coli* adria 96	Turkey meat	8,81	8,37	36	8,65	69
	16	*Escherichia coli* adria 97	Cheese	9	8,82	67	8,9	79
	17	*Enterobacter cloacae* 98	Ground beef	9,18	8,88	50	8,98	64
	18	*Klebsiella pneumoniae* MIO 10494	Frozen vegetables	9	8,93	85	8,91	81
	19	*Klebsiella pneumoniae* MIO 40897b	Delicatessen	9,28	9,08	64	9,14	73
	20	*Klebsiella pneumoniae* MIO 111096	/	9,15	8,5	23	8,59	28
	21	*Klebsiella oxytoca* MOI 30497a	Milk powder	8,99	6,81	1	8,78	62
	22	*Klebsiella oxytoca* MOI 30497b	/	ND	8	ND	8,16	ND
	23	*Enterobacter sakazakii* ATCC 29544	/	8,87	8,72	70	8,83	91
	24	*Citrobacter diversus* adria 38	/	8,98	6,48	0,31	8,76	60,42

	INCLUSIVITY						
	N°	Souche	Origin	Replicate	PCA	V08-060	3M Petrifilm CC
					CFU/plate	CFU/plate	CFU/Petrifilm
2005	25	*Escherichia coli* 19	Grated carrots	a/b	20/19	19/9	17/16
	26	*Escherichia* coli 20	Well water	a/b	66/65	30/28	47/60
	27	*Escherichia coli* 14	Raw milk	a/b	149/149	132/153	136/130
	28	*Enterobacter agglomerans* 74	Cheese	a/b	81/89	0/0	0/0
	29	*Cronobacter sakazakii* L22	Pasteurized milk	a/b	150/157	0/0	119/130
	30	*Cronobacter sakazakii* 90	Pastry	a/b	112/89	115/103	96/72
	31	*Enterobacter cloacae* Fb2	Food	a/b	38/76	52/59	46/47
2006	32	*Enterobacter agglomerans* 11	Cheese	a/b	/	10/17	11/10
	33	*Citrobacter freundii* 59	Food	a/b	/	37/18	38/38
	34	*Hafnia alvei* 168	VSM	a/b	/	72/86	61/72
	35	*Hafnia alvei* Mi1051295	Delicatessen	a/b	/	63/76	53/38
	36	*Klebsiella oxytoca* 42	Food	a/b	/	10/6	5/9
	37	*Salmonella* Enteritidis CIP 8297	/	a/b	/	48/54	45/40

	INCLUSIVITY					
	N°	Strain	Origin	PCA CFU/plate	VRBL (44°C) CFU/plate	3M Petrifilm CC CFU/Petrifilm
2018	38	*Escherichia coli* Ad1422	Infant formula	99	8	46
	39	*Escherichia coli* Ad228	Fish	54	23	54
	40	*Klebsiella pneumoniae* Ad1374	Water	76	95	86
	41	*Klebsiella oxyotoca* Ad1371	Water	17	0	0
	42	*Klebsiella oxytoca* Ad1509	Milk powder	BHI no growth at 44°C		
	43	*Klebsiella oxytoca* Ad1453	Water	BHI no growth at 44°C		
	44	*Enterobacter hormaechei* Ad1373	Water	111	77	111
	45	*Enterobacter kobei* Ad706	Milk powder	73	0	6 (µcolonies)
	46	*Enterobacter kobei* Ad342	Ham	BHI no growth at 44°C		
	47	*Cronobacter sakazakii* Ad2413	Infant formula	70	60	65
	48	*Cronobacter malonaticus* E752	Baby food	27(-7)	20(-5)	16 µcolonies(-5)
	49	Cronobacter malonaticus E684	/	54	46	20
	50	Citrobacter braakii Ad833	Beef meat	84	0	3 (µcolonies)
	51	*Citrobacter braakii* Ad2701	Fish	BHI no growth at 44°C		
	52	*Citrobacter farmeri* Ad1116	Environment	110	4	81
	53	*Escherichia fergusonnii* Ad1381	Water	30	10	29
	54	*Escherichia hermanii* Ad464	Raw milk	37	16 (small colonies)	0
	55	*Escherichia hermanii* Ad457	Vegetables	24	0	1
	56	*Escherichia hermanii* Ad462	Raw milk	BHI no growth at 44°C		
	57	*Escherichia hermanii* Ad460	Custard	BHI no growth at 44°C		
	58	*Hafnia alvei* Ad2274	Pasteurized cheese	102	0	0
	59	*Hafnia alvei* 110	Ground pork	54	51	51
	60	*Enterobacter cloacae* 150	Ground beef	43(-7)	22(-5)	11(-7)
	61	*Citrobacter diversus* 100	Pork liver	65(-7)	2 µcol(-6)	45(-7)
	62	*Pantoea agglomerans* 11	Cheese	37(-7)	17(-4)	21(-7)
	63	*Citrobacter freundii* 53	Frozen beans	43(-7)	0(-3)	85+µcol (-5)
	64	*Cronobacter sakazakii* 90	Pastry	41(-7)	29(-7)	52(-7)
	65	*Enterobacter cloacae* 148	Paella	63(-7)	0(-5)	41(-7)
	66	*Enterobacter cloacae* 85	Frozen macedoine	55(-7)	6µcol(-5)	29(-7)

	EXCLUSIVITY									
	N°	Strain		log PCA	3M Petrifilm CC			VRBL		
					log cfu/ml	%R	Aspect	log cfu/ml	%R	Aspect
1997	1	NC	*Aeromonas hydrophila* CIP 5750	8,9		0			0	
	2	NC	*Bacillus subtilis* ATCC 6633	7,91		0			0	
	3	NTC	*Citrobacter diversus* CIP 8294	8,92		0			0	
	4	NTC	*Citrobacter freundii* adria 59	8,92	7,93	10,24	µcolonies on the half of Petrifilm		0	µcolonies on the edge
	5	NTC	*Citrobacter freundii* CIP 5732	8,76		0			0	
	6	NC	*Edwarsiella tarda* CIP 7861	9,04		0			0	
	7	NTC	*Enterobacter aerogenes* CIP 6086	8,76		0			0	
	8	NTC	*Enterobacter agglomerans* 422	8,84		0			0	
	9	NTC	*Enterobacter agglomerans* 97/27/053	8,7		0			0	
	10	NTC	*Enterobacter agglomerans* adria 11	8,54	8,48	85,71			0	
	11	NTC	*Enterobacter agglomerans* LB1	8,65		0			0	
	12	NTC	*Enterobacter agglomerans* MI 10797b	8,72		0			0	
	13	NTC	*Enterobacter cloacae* adria 10	9		0			0	
	14	NTC	*Cronobacter* adria 22	9,11		0			0	
	15	NTC	*Cronobacter sakazakii* adria 7	9,28		0			0	
	16	NC	*Enterococcus faecalis* ATCC 29212	9,74		0			0	
	17	NC	*Erwinia carotovora* CIP 103762	7,26		0			0	
	18	NTC	*Hafnia alvei* 167	9,05		0			0	
	19	NTC	*Hafnia alvei* adria 168	8,8		0			0	
	20	NTC	*Hafnia alvei* adria 88	9,11	8,93	65,38			0	
	21	NTC	*Hafnia alvei* M37	9,1		0			0	
	22	NTC	*Hafnia alvei* MI0 10694	8,96		0			0	
	23	NTC	*Hafnia alvei* MI0 51295	9,27	9,05	60			0	
	24	NTC	*Klebsiella oxytoca* 42	8,63	8,1	30			0	
	25	NTC	*Klebsiella oxytoca* adria 57	8,75		0			0	
	26	NTC	*Klebsiella oxytoca* CIP 5732	8,77		0			0	
	27	NTC	*Klebsiella oxytoca* MI0 21294	8,84		0			0	
	28	NTC	*Klebsiella pneumoniae* adria 28	8,94		0			0	
	29	NTC	*Klebsiella pneumoniae* CIP 8291	8,79		0			0	
	30	NTC	*Klebsiella pneumoniae* MI0 40897a	8,84		0			0	
	31	NC	*Proteus vulgaris* adria 56	9,11		0			0	
	32	NC	*Pseudomonas fluorescens* CIP 5690	8,81		0			0	
	33	NC	*Salmonella* Enteritidis CIP 8297	9,3	9,07	59	pink-red with halo	8,92	41	small characteristic colonies (0,5mm)
	34	NC	*Shigella flexneri* CIP 8248	8,38		0			0	
	35	NC	*Staphylococcus aureus* CIP 658	8,91		0			0	
	36	NC	*Yersinia enterocolitica* CIP 8027	9		0			0	

NTC: non thermotolerant coliforms

NC: non coliforms

Appendix 7 – Inter-laboratory study: results obtained by the collaborators and the expert laboratory

Laboratory	Sample no	Reference method V08-060				Alternative method: Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
A	A1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	A6	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
Mesophilic aerobic microflora: $1,3.10^3$/ml	A2	1	57	57	1,76	1	48	36	1,56
		10	6			10	3		
	A7	1	71	73	1,86	1	49	45	1,65
		10	9			10	4		
	A3	10	57	680	2,83	10	36	360	2,56
		100	18			100	4		
	A8	10	65	660	2,82	10	45	450	2,65
		100	7			100	4		
	A4	100	34	3100	3,49	100	40	3600	3,56
		1000	0			1000	0		
	A5	100	84	8500	3,93	100	33	3300	3,52
		1000	9			1000	3		
B	B1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	B6	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
Mesophilic aerobic microflora: $1,1.10^2$/ml	B2	1	65	67	1,83	1	74	74	1,87
		10	9			10	7		
	B7	1	64	68	1,83	1	83	84	1,92
		10	11			10	9		
	B3	10	80	800	2,90	10	58	550	2,74
		100	8			100	2		
	B8	10	66	670	2,83	10	75	760	2,88
		100	8			100	8		
	B4	100	58	6300	3,80	100	53	5000	3,70
		1000	11			1000	2		
	B5	100	60	6100	3,79	100	43	4500	3,65
		1000	7			1000	6		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
C	C1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	C6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $7,6.10^2$/ml		10	0			10	0		
	C2	1	38	35	1,54	1	60	57	1,76
		10	1			10	3		
	C7	1	41	39	1,59	1	56	57	1,76
		10	2			10	7		
	C3	10	43	470	2,67	10	43	480	2,68
		100	9			100	10		
	C8	10	50	490	2,69	10	37	380	2,58
		100	4			100	5		
	C4	100	47	5200	3,72	100	40	3900	3,59
		1000	10			1000	3		
	C5	100	41	3900	3,59	100	31	2900	3,46
		1000	2			1000	1		
D	D1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	D6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $1,6.10^3$/ml		10	0			10	0		
	D2	1	70	70	1,85	1	61	57	1,76
		10	7			10	2		
	D7	1	72	73	1,86	1	81	77	1,89
		10	8			10	4		
	D3	10	48	490	2,69	10	59	560	2,75
		100	6			100	3		
	D8	10	62	630	2,80	10	51	500	2,70
		100	7			100	4		
	D4	100	60	6300	3,80	100	51	4800	3,68
		1000	9			1000	2		
	D5	100	80	7800	3,89	100	43	4000	3,60
		1000	6			1000	1		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
E	E1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	E6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $1,9.10^3$/ml		10	0			10	0		
	E2	1	49	51	1,71	1	90	85	1,93
		10	7			10	3		
	E7	1	83	88	1,94	1	70	68	1,83
		10	14			10	5		
	E3	10	94	960	2,98	10	60	580	2,76
		100	12			100	4		
	E8	10	66	680	2,83	10	70	680	2,83
		100	9			100	5		
	E4	100	79	7900	3,90	100	67	7000	3,85
		1000	8			1000	10		
	E5	100	61	5900	3,77	100	60	6000	3,78
		1000	4			1000	6		
F	F1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	F6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $1,9.10^3$/ml		10	0			10	0		
	F2	1	55	55	1,74	1	65	64	1,81
		10	5			10	5		
	F7	1	46	45	1,65	1	69	66	1,82
		10	4			10	4		
	F3	10	53	530	2,72	10	49	540	2,73
		100	5			100	10		
	F8	10	47	470	2,67	10	54	510	2,71
		100	5			100	2		
	F4	100	64	6700	3,83	100	51	5500	3,74
		1000	10			1000	10		
	F5	100	68	6500	3,81	100	48	4500	3,65
		1000	4			1000	1		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
G	G1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	G6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: 70/ml		10	0			10	0		
	G2	1	66	67	1,83	1	79	78	1,89
		10	8			10	7		
	G7	1	70	69	1,84	1	73	70	1,85
		10	6			10	4		
	G3	10	65	660	2,82	10	63	620	2,79
		100	7			100	5		
	G8	10	79	780	2,89	10	50	490	2,69
		100	7			100	4		
	G4	100	68	6800	3,83	100	60	5800	3,76
		1000	7			1000	4		
	G5	100	100	9600	3,98	100	56	5600	3,75
		1000	6			1000	6		
H	H1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	H6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $3,6.10^3$/ml		10	0			10	0		
	H2	1	59	59	1,77	1	87	86	1,93
		10	6			10	8		
	H7	1	47	49	1,69	1	81	78	1,89
		10	7			10	5		
	H3	10	75	780	2,89	10	55	560	2,75
		100	11			100	6		
	H8	10	89	870	2,94	10	57	600	2,78
		100	7			100	9		
	H4	100	83	8200	3,91	100	51	5000	3,70
		1000	7			1000	4		
	H5	100	87	8700	3,94	100	56	5400	3,73
		1000	9			1000	3		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
J	J1	1	0	<1	<1	1	0	<1	0,00
		10	0			10	0		
	J6	1	0	<1	<1	1	0	<1	0,00
Mesophilic aerobic microflora: $1,9.10^3$/ml		10	0			10	0		
	J2	1	79	80	1,90	1	66	63	1,80
		10	9			10	3		
	J7	1	73	72	1,86	1	79	78	1,89
		10	6			10	7		
	J3	10	66	650	2,81	10	55	560	2,75
		100	5			100	7		
	J8	10	79	780	2,89	10	55	570	2,76
		100	7			100	8		
	J4	100	54	5800	3,76	100	63	6100	3,79
		1000	10			1000	4		
	J5	100	107	10000	4,00	100	37	3600	3,56
		1000	7			1000	3		
K	K1	1	0	<1	<1	1	0	<1	0,00
		10	0			10	0		
	K6	1	0	<1	<1	1	0	<1	0,00
Mesophilic aerobic microflora: $1,5.10^3$/ml		10	0			10	0		
	K2	1	61	62	1,79	1	58	58	1,76
		10	7			10	6		
	K7	1	63	63	1,80	1	61	61	1,79
		10	6			10	6		
	K3	10	68	670	2,83	10	59	580	2,76
		100	6			100	5		
	K8	10	75	750	2,88	10	67	660	2,82
		100	7			100	6		
	K4	100	45	4500	3,65	100	45	4500	3,65
		1000	4			1000	5		
	K5	100	58	5800	3,76	100	49	4900	3,69
		1000	6			1000	5		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
L	L1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	L6	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
Mesophilic aerobic microflora: $2,2.10^3$/ml	L2	1	24	25	1,40	1	67	66	1,82
		10	3			10	6		
	L7	1	30	31	1,49	1	71	72	1,86
		10	4			10	8		
	L3	10	40	390	2,59	10	53	540	2,73
		100	3			100	6		
	L8	10	53	510	2,71	10	52	500	2,70
		100	3			100	3		
	L4	100	49	4700	3,67	100	34	3300	3,52
		1000	3			1000	2		
	L5	100	54	5400	3,73	100	54	5400	3,73
		1000	5			1000	5		
N	N1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	N6	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
Mesophilic aerobic microflora: $2,7.10^3$/ml	N2	1	65	65	1,81	1	83	84	1,92
		10	6			10	9		
	N7	1	30	35	1,54	1	95	95	1,98
		10	9			10	9		
	N3	10	73	760	2,88	10	59	600	2,78
		100	10			100	7		
	N8	10	104	1000	3,00	10	62	650	2,81
		100	7			100	9		
	N4	100	99	10000	4,00	100	77	7700	3,89
		1000	12			1000	8		
	N5	100	75	8000	3,90	100	72	7000	3,85
		1000	13			1000	5		

Laboratory	Sample no	Reference method V08-060				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
O	O1	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	O6	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $1,5.10^3$/ml		10	0			10	0		
	O2	1	94	94	1,97	1	74	73	1,86
		10	9			10	6		
	O7	1	87	93	1,97	1	90	92	1,96
		10	15			10	11		
	O3	10	69	680	2,83	10	59	590	2,77
		100	6			100	6		
	O8	10	99	990	3,00	10	72	730	2,86
		100	10			100	8		
	O4	100	94	9500	3,98	100	48	4800	3,68
		1000	10			1000	5		
	O5	100	68	6500	3,81	100	65	6600	3,82
		1000	4			1000	8		

Laboratory	Sample no	Reference method V08-060♦				Test 3M™ Petrifilm™			
		Dilution	cfu/plate a	cfu/ml	log cfu/ml	Dilution	cfu/plate	cfu/ml	log cfu/ml
ADRIA	450	1	0	<1	0,00	1	0	<1	0,00
		10	0			10	0		
	451	1	0	<1	0,00	1	0	<1	0,00
Mesophilic aerobic microflora: $1,7.10^3$/ml		10	0			10	0		
	452	1	67	65	1,81	1	64	64	1,81
		10	5			10	6		
	453	1	42	45	1,65	1	59	60	1,78
		10	7			10	7		
	454	10	57	560	2,75	10	37	360	2,56
		100	4			100	2		
	455	10	61	620	2,79	10	40	390	2,59
		100	7			100	3		
	456	100	40	3900	3,59	100	42	4000	3,60
		1000	3			1000	2		
	457	100	51	5400	3,73	100	58	5500	3,74
		1000	8			1000	3		

♦ Analyses performed according to the COFRAC accreditation