

NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

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

TEMPO® TC
(Certificate number: BIO 12/17 - 12/05)
for the enumeration of total coliforms in
all human food products and pet food products











Quantitative method

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This report consists of 67 pages, including 10 appendices.
Only copies including the totality of this report are authorised.

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

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

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

Validation protocols	<ul style="list-style-type: none"> ▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i> ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i> ▪ AFNOR technical rules (PR Revision 7).
Reference method[♦]	NF ISO 4832 (2006): Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique
Alternative method	TEMPO® TC
Scope	<input checked="" type="checkbox"/> All human food products <input checked="" type="checkbox"/> Pet food products
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

[♦] Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The TEMPO® TC method was validated on the 8th of December 2005 (Certificate BIO 12/17 – 12/05) according to the ISO 16140 (2003). A renewal was obtained on the 4th of December 2009. An extension was run in 2011 for extension of the scope to raw milk. The alternative method was renewed in November 2017 and in October 2021 according to the ISO 16140-2:2016.

2 METHOD PROTOCOLS

2.1 Alternative method

Principle

TEMPO® system is an automated method associating an innovative card with an adapted medium to ensure rapid enumeration of several quality indicators.

The method is based on the MPN principle (Most Probable Number), with the TEMPO® card.

The TEMPO® test consists in a culture medium associated to the TEMPO® card. The culture medium is inoculated with the sample to be tested and transferred by the TEMPO® Filler into the card.

Depending on the number and size of the positive wells, the TEMPO® Reader calculates the total coliforms count. Card reading, interpretation and reporting are directly managed by the TEMPO® system.

Protocol

The protocol is given in **Appendix 1**.

Restrictions

There is no restriction.

2.2 Reference method ♦

The standard reference is the NF ISO 4832 (2006): Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique (See **Appendix 2**).

3 INITIAL VALIDATION STUDY AND 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.

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*

Six categories were tested with three different types per category. The samples were analysed in duplicate for the initial validation study (2005) but in simplicate in 2011 and 2017.

Taking into account all the studies, 222 samples were tested. A summary of the number of samples tested per study is given in Table 1.

♦ Analysis performed according to the COFRAC accreditation

Table 1 - Summary of the number of samples tested per category

Category	2005 Initial validation study	2011 Study run by bioMérieux	2017 Renewal study	Total analysed	Total with interpretable results
1 Composite food	16	19	0	35	33
2 Meat products	31	12	0	43	33
3 Dairy products	26	19	4	49	23
4 Seafood	19	0	5	24	18
5 Vegetables and fruits	33	5	3	41	29
6 Pet food	22	0	8	30	15
All categories	147	55	20	222	151

The repartition of the analysed samples and interpretable results per category and type is given in Table 2.

Table 2 – Categories and types

Category	Type	Number of tested samples	Number of interpretable results
1 Composite food	a RTE	9	7
	b RTRH	16	16
	c Deli salad	10	10
	Total	35	33
2 Meat products	a Raw meat	15	12
	b Ready to cook	16	14
	c Ready to eat	12	7
	Total	43	33
3 Dairy products	a Raw milk	19	10
	b Cheeses and fermented product	16	7
	c Desserts	14	6
	Total	49	23
4 Seafood	a Raw	6	5
	b Smoked	10	6
	c RTRH	8	7
	Total	24	18
5 Vegetables and fruits	a RTE	17	14
	b RTRH, RTC	12	10
	c Low moisture products	12	5
	Total	41	29
6 Pet food	a Raw	5	5
	b High moisture	7	5
	c Low moisture	18	5
	Total	30	15
All categories		222	151

3.1.1.2 Artificial and natural contamination of the samples

57 samples were artificially contaminated; 51 gave interpretable results with both methods.

The strains inoculated, the injury applied, and the injury evaluation is provided in **Appendix 3**.

66 % of the samples were naturally contaminated.

3.1.1.3 Raw data

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

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.

The data are classified in three categories (See Table 3):

- 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 are not included in the calculation.
- Results below or above the quantification limit: according to the ISO 16140-2:2016, if any result (either reference or alternative method) is below the quantification limit, the data should be plotted using a substituted value of 1 log₁₀ units less than the observed value in case of a lower than value. Similarly, any value greater than the upper limit should be amended by adding 1 log unit. These results are not included in the calculations but also appear on the graphs.

Table 3 - Classification of the data

	Category	Number of samples with interpretable results	No result with the reference method	Below or above the quantification limit (one or both methods)	Number of colonies < 4 CFU/plate	Total
1	Composite food	33	0	2	0	35
2	Meat products	33	2	5	3	43
3	Dairy products	23	0	24	2	49
4	Seafood	18	0	6	0	24
5	Vegetables and fruits	29	0	12	0	41
6	Pet food	15	0	15	0	30
	All categories	151	2	64	5	222

The samples, which were not used in the calculations, are provided in Table 4.

Table 4 - Samples which were not used in the calculations

Sample N°	Product	ISO 4832 [♦]	TEMPO TC	Category	Type
491	Buckwheat Crepe	<3,00	<2,00	1	a
492	Buckwheat Crepe	>8,18	>6,69	1	a
494	Poultry meat	ND	5,69	2	a
495	Poultry meat	ND	4,69	2	a
496	Duck meat	>3,18	4,45	2	a
501	Sausages	1,54*	1,16	2	b
1867	Colombo turkey skewer	>4,18	4,32	2	b
430	Dried ham	0,70*	1,00	2	c
431	Dried ham	<1,00	<1,00	2	c
432	Dried beef meat ("viande des grisons)	0,85*	<1,00	2	c
433	Delicatessen	0,70*	1,32	2	c
504	Duck pâté	>5,18	>5,69	2	c
4714	Raw cow milk	5,16	>5,69	3	a
4716	Raw cow milk	1,15*	<1,16	3	a
4913	Raw cow milk	<3,00	1,32	3	a
4914	Raw cow milk	<3,00	<1,16	3	a
5056	Raw cow milk	1,24*	1,00	3	a
5100	Raw cow milk	>5,18	5,48	3	a
5101	Raw cow milk	>5,18	5,57	3	a
5102	Raw cow milk	>5,18	>5,63	3	a
5114	Raw goat milk	<2,00	1,26	3	a
489	Butter	0,00	<0,00	3	b
502	Grated cheese	<1,00	<1,00	3	b
911	Fresh cheese	<1,00	<1,00	3	b
912	Cheese	<1,00	<1,00	3	b

♦ Analyses performed according to the COFRAC accreditation

Sample N°	Product	ISO 4832 [†]	TEMPO TC	Category	Type
1126	Fermented milk	<1,00	<1,00	3	b
1127	Fermented milk	<1,00	<1,00	3	b
1136	Goat milk cheese	<1,00	<1,00	3	b
1139	Fermented milk	0,94*	<1,00	3	b
1140	Fermented milk	0,85*	1,64	3	b
907	Pear ice cream	<1,00	<1,00	3	c
908	Blackcurrant ice cream	<1,00	<1,26	3	c
909	Strawberry ice cream	<1,00	<1,00	3	c
910	Tiramisu ice cream	<1,00	<1,00	3	c
984	Strawberry ice cream	<1,00	<1,00	3	c
985	Blackcurrant ice cream	<1,00	<2,00	3	c
1173	Strawberry ice cream	>7,18	>5,69	3	c
1174	Vanilla ice cream	7,08	>5,69	3	c
8268	Raw salmon	<1,00	1,32	4	a
847	Smoked salmon	0,85*	<1,00	4	b
848	Smoked trout	<1,00	<1,00	4	b
914	Smoked herring	<1,00	<1,00	4	b
915	Smoked mackerel	<1,00	<1,00	4	b
498	Cooked tuna	<0,85	<1,00	4	c
716	Grated carrots	6,65	>6,69	5	a
718	Red cabbage	>7,18	>6,69	5	a
854	Mixed vegetables	7,06	>6,69	5	a
748	Carrot purée	>7,18	>6,69	5	b
1131	Turnip	<1,00	<2,00	5	b
499	Dried mushrooms	<1,00	<2,00	5	c
855	Dried onions	<1,00	<2,00	5	c
857	Garlic powder	1,24*	<1,66	5	c
999	Black pepper	<1,00	<1,00	5	c
1000	Cinnamon	<1,00	>3,94	5	c
1001	Dried banana	<1,00	<1,00	5	c
1667	Black mushrooms	>6,18	4,52	5	c
1122	Dog food	<1,00	<1,00	6	b
1124	Sausage for cat	<3,00	<1,00	6	b
858	Pellets for cat	<1,00	<1,00	6	c
916	Pellets for cat	<1,00	<1,00	6	c
917	Pellets for cat	<1,00	<1,00	6	c
918	Pellets for cat	<1,00	<1,00	6	c
986	Pellets for cat	0,85*	<1,00	6	c
987	Pellets	<1,00	<1,00	6	c
988	Pellets	<1,00	<1,00	6	c
1123	Goldfish food	<1,00	<1,00	6	c
1175	Pellets	<1,00	<1,00	6	c
1176	Pellets for cat	<1,00	<1,00	6	c
8077	Pellets for dog (beef, chicken, liver)	<1,00	<1,00	6	c
8078	Pellets for dog (beef)	1,48*	<1,00	6	c
8251	Pellets for cat (liver/beef/chicken/cheese)	<1,00	<1,00	6	c

*: CFU/plate < 4 ND: not determined

3.1.1.4 Statistical interpretation

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

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

The Figures 1 to 6 show the data plotted for the different studied categories, and the Figure 7 for all the products.

Figure 1 - Data plotted for the Composite foods

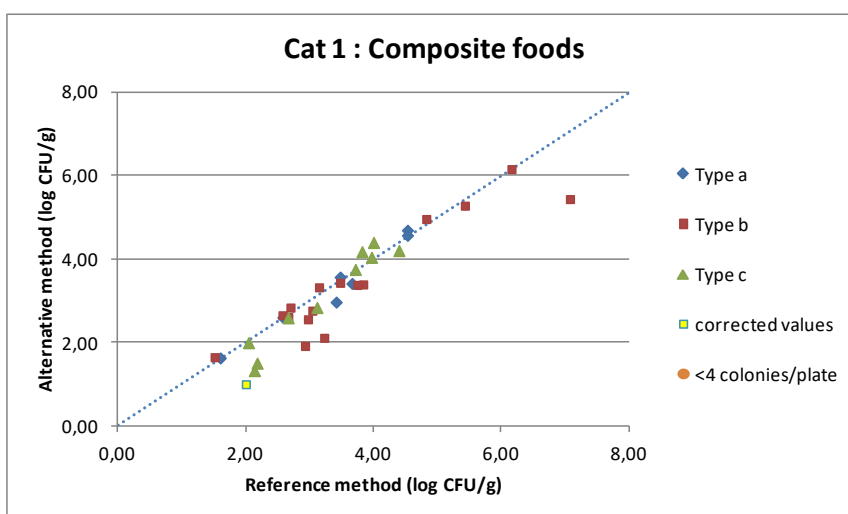


Figure 2 - Data plotted for Meat products

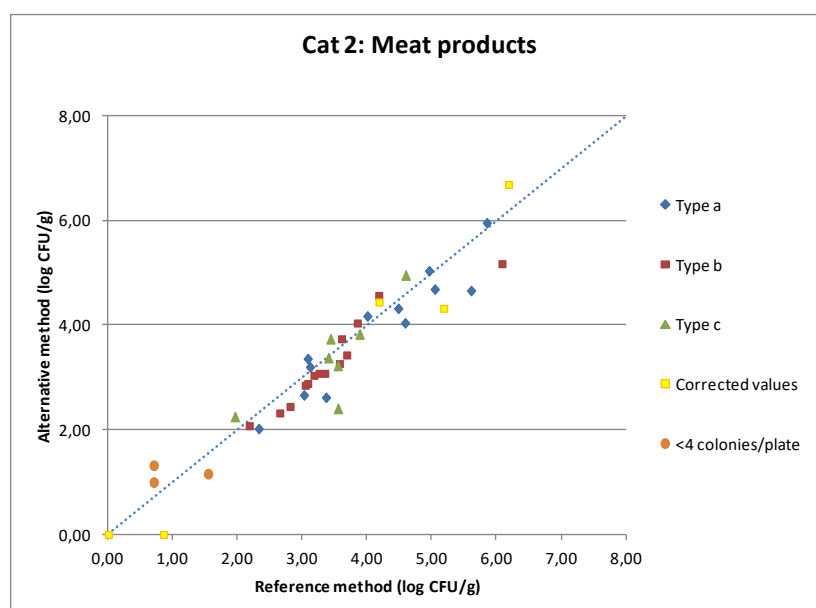


Figure 3 - Data plotted for Dairy products

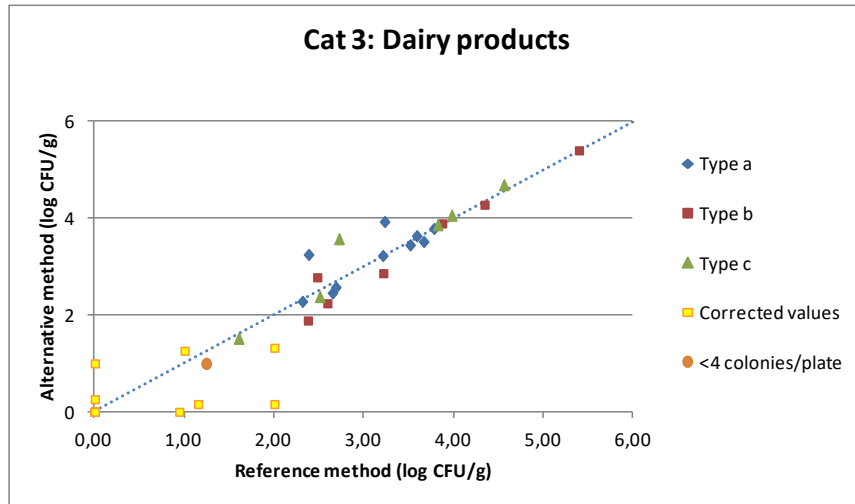


Figure 4 - Data plotted for Seafood

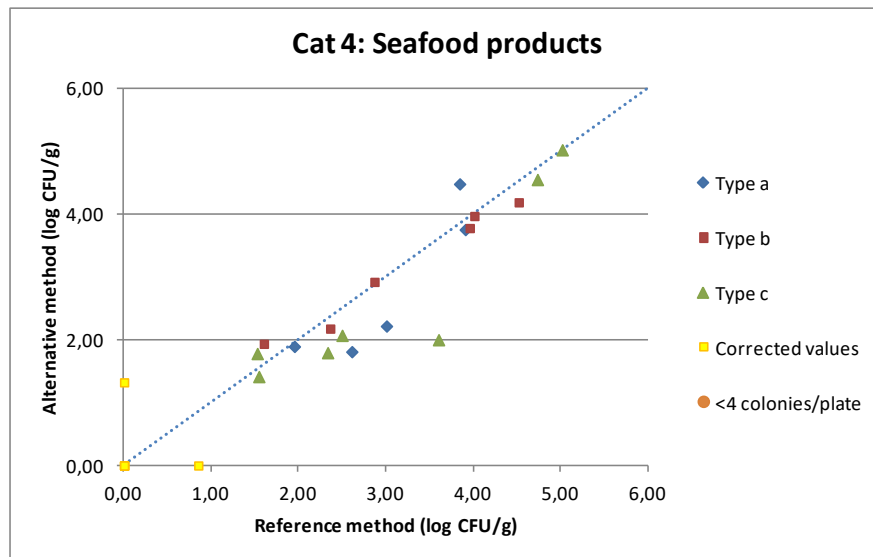


Figure 5 - Data plotted for Vegetables and fruits

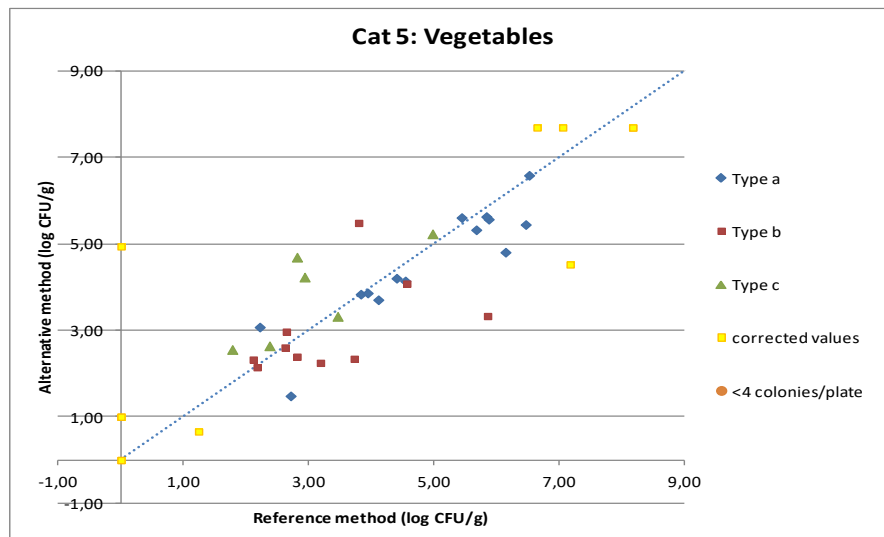


Figure 6 - Data plotted for **Pet food**

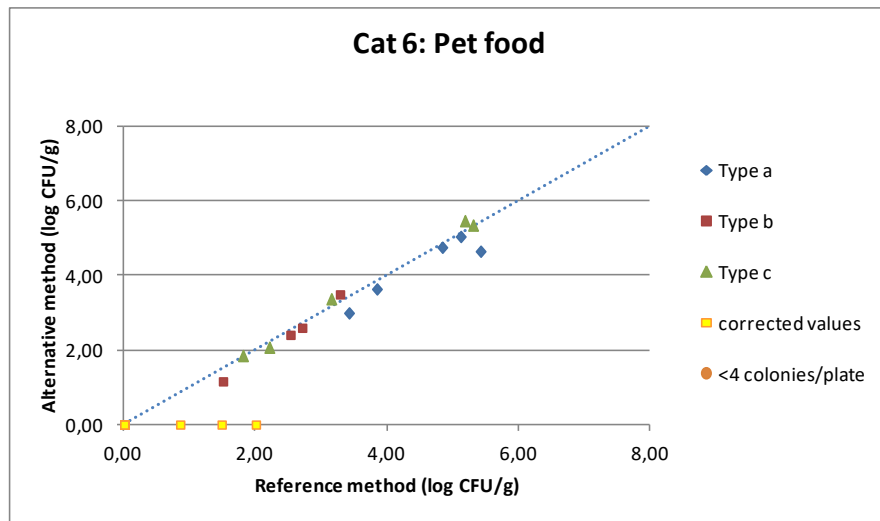
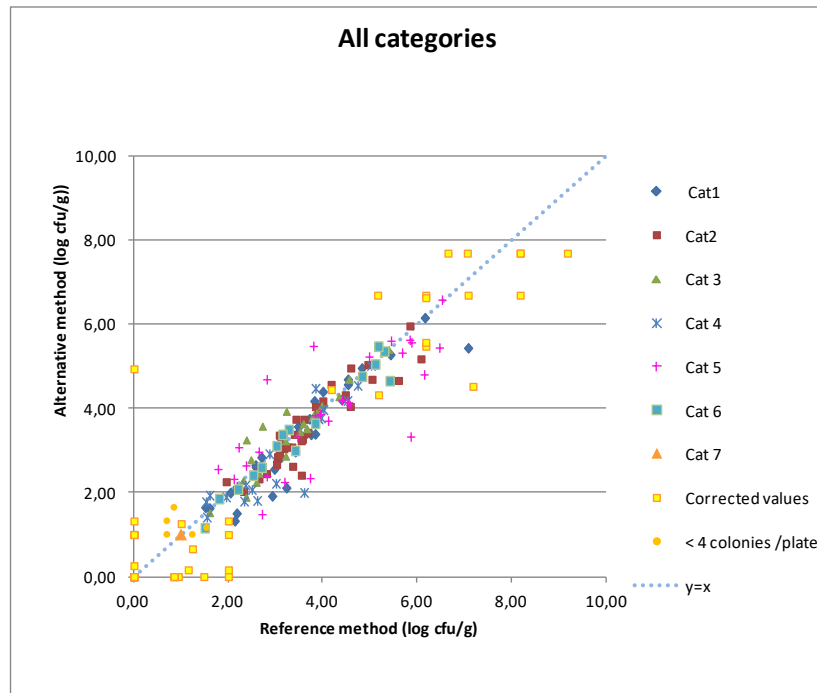


Figure 7 - Data plotted for **all the products**



The calculated values for Average difference and Standard deviation differences per category are provided in Table 5.

Table 5 - Calculated values

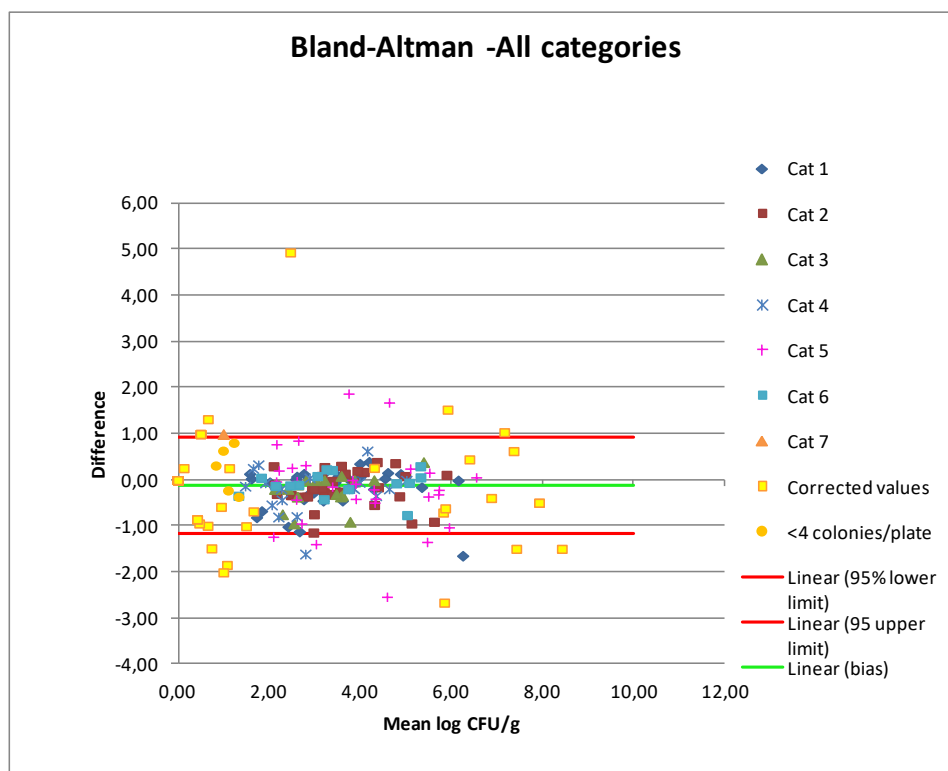
Category	n	\bar{D} : bias	SD	Linear bias	95% lower limit	95% upper limit
1 Composite food	33	-0,19	0,44	-0,19	-1,11	0,72
2 Meat products	33	-0,17	0,38	-0,17	-0,95	0,61
3 Dairy products	23	0,08	0,37	0,08	-0,71	0,86
4 Seafood	18	-0,23	0,50	-0,23	-1,31	0,84
5 Vegetables and fruits	29	-0,17	0,88	-0,17	-2,01	1,66
6 Pet food	15	-0,08	0,27	-0,08	-0,69	0,53
All categories	151	-0,14	0,53	-0,14	-1,19	0,92

\bar{D} : Average difference

SD: Standard deviation of differences

The Bland-Altman difference plot for all the samples is given in Figure 8.

Figure 8 – Bland-Altman difference plot for all the samples



The average difference observed varies from -0.23 log (Seafood) to 0.08 log (Dairy products).

Samples for which the difference between the result obtained with the reference and the alternative methods is above or lower than the 95 % confidence limits of agreement (CIs), are listed in Table 6.

For 12 samples, the difference is linked to the fact that for one or both methods, the enumeration was below or above the quantification limits. For these samples, the results were finally similar.

Table 6 - Disagreements observed between the reference and the alternative method

Values in green: differences in favour of the alternative method

Values in red: differences in favour of the reference method

Category											
1	Composite food	2	Meat products	3	Dairy products	4	Seafood	5	Vegetables and fruits	6	Pet food

Classification of the data	Category	Type	N° Sample	Product	Reference method	Alternative method	Values before correction (Ref/Alt)	Mean	Difference	Lower / Upper limits	Comments
Interpretable result by both methods	1	b	1668	Chinese food (vegetables)	7,08	5,44	/	6,26	-1,64	-1,19/ 0,92	Higher enumeration by the reference method
	4	c	509	Ready to reheat fish	3,60	2,00	/	2,80	-1,60		Higher enumeration by the reference method (<i>Enterobacter agglomerans</i> identified)
	5	a	1130	Beet	6,15	4,81	/	5,48	-1,34		Higher enumeration by the reference method (<i>Enterobacter amnigenus</i> identified)
	5	a	1665	Carrot tomatoes terrine	2,71	1,48	/	2,10	-1,23		Higher enumeration by the reference method
	5	b	423	Frozen tomatoes	5,86	3,33	/	4,59	-2,53		Higher enumeration by the reference method (<i>Enterobacter agglomerans</i> identified)
	5	b	1132	Frozen peas	3,73	2,34	/	3,03	-1,39		Higher enumeration by the reference method (<i>Enterobacter agglomerans</i> and <i>Serratia liquefaciens</i> identified)
	5	b	1555	Ratatouille	3,80	5,48	/	4,64	1,68		Higher enumeration by the alternative method
	5	c	8264	Dried leeks	2,81	4,69	/	/	1,88		Higher enumeration by the alternative method
< or > of the quantification limit	1	a	492	Buckwheat Crepe	9,18	7,69	8,18/6,69	8,44	-1,49		Above the quantification limit by both methods
	3	a	4714	Raw cow milk	5,16	6,69	5,69	5,93	1,53		Above the quantification limit
	3	a	4914	Raw cow milk	2,00	0,16	3,00/1,16	1,08	-1,84		Below the quantification limit by both methods
	3	c	985	Blackcurrant ice cream	0,00	1,00	1,00/2,00	0,50	1,00		Below the quantification limit by both methods
	3	c	1173	Strawberry ice cream	8,18	6,69	7,18/7,69	7,44	-1,49		Above the quantification limit by both methods
	4	a	8268	Raw salmon	0,00	1,32	1,00	0,66	1,32		Below the quantification limit for the reference method
	5	a	716	Grated carrots	6,65	7,69	6,69	7,17	1,04		Above the quantification limit for the alternative method
	5	b	1131	Turnip	0,00	1,00	1,00/2,00	0,50	1,00		Below the quantification limit by both methods
	5	c	499	Dried mushrooms	0,00	1,00	1,00/2,00	0,50	1,00		Below the quantification limit by both methods
	5	c	855	Dried onions	0,00	1,00	1,00/2,00	0,50	1,00		Below the quantification limit by both methods
	5	c	1000	Cinnamon	0,00	4,94	1,00/3,94	2,47	4,94		Higher enumeration by the alternative method
	5	c	1667	Cooked black mushroom	7,18	4,52	6,18	5,85	-2,66		Higher enumeration by the reference method
	6	b	1124	Sausage for cat	2,00	0,00	3,00/1,00	1,00	-2,00		Below the quantification limit by both methods
	6	c	8078	Pellets for dog (beef)	1,48	0,00	1,00	0,74	-1,48		Below the quantification limit for the alternative method

Corrected value

Results calculated using enumeration lower than 4 CFU/plate

3.1.1.5 Discordant results

The samples are classified in two categories (See Table 7).

Table 7 - Classification of the samples

		Number of samples
Interpretable results by both methods	< LCL	6
	> UCL	2
	Total	8
< or > the quantification limit	< LCL	6
	> UCL	8
	Total	14
Total < LCL		12
Total >UCL		10

For 8 samples giving interpretable results by both methods, the enumeration was in favour of the reference method; 6 samples concern vegetables, one a ready to reheat fish and one a composite food. For some samples, the colonies enumerated on VRBL agar were identified. For 3 samples, the genus *Enterobacter* was identified; for one sample, the genus *Enterobacter* and *Serratia* were identified. For 2 samples, the enumeration was in favor of the TEMPO TC method, this concerns also vegetables products.

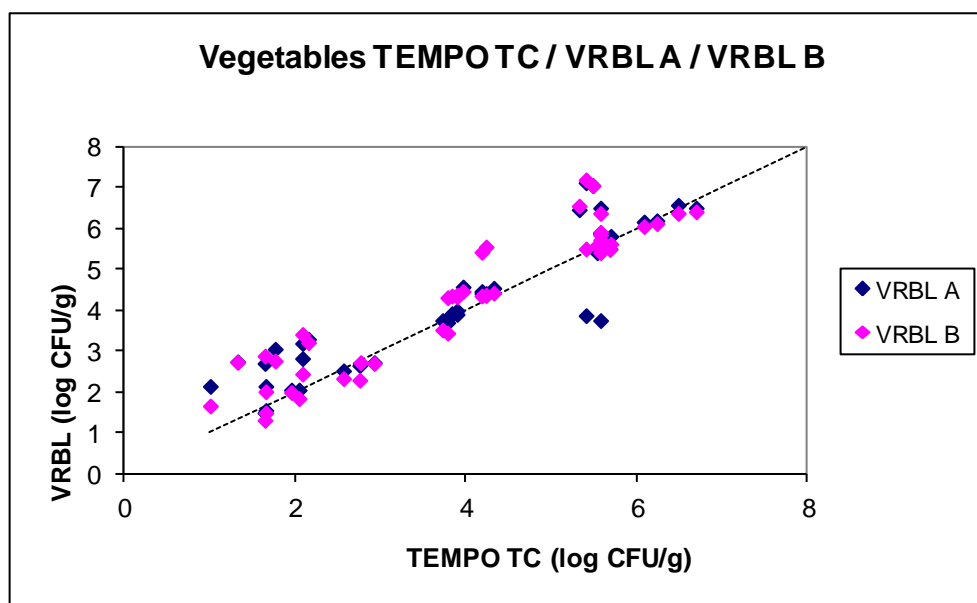
These differences are probably due to the large variety of microorganisms included in the coliforms group.

Note that for the vegetable products, complementary tests were done on 22 samples by running analyses using 2 different brands of VRBL agar.

The Figure 9 shows the data obtained using the 2 VRBL brands.

The reference method presents a result variability due to the heterogeneity of the recovered microflora, which leads to characteristic colonies in function of the VRBL medium used.

Figure 9



3.1.1.6 Conclusion

The relative trueness study of the alternative method is satisfying. The alternative method is reliable when compared 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

Six matrix/strain pairs were tested. A minimum of one type per category, and therefore 2 different batches, was selected, using 6 samples per type. 2 samples will be contaminated at a low level, 2 at intermediate level, 2 at a high level. For each sample, 5 replicates (5 different test portions) were tested. Overall, 30 samples were tested per matrix type.

The following matrix/strain pairs were studied (See Table 8).

Table 8 - Matrix/strain pairs

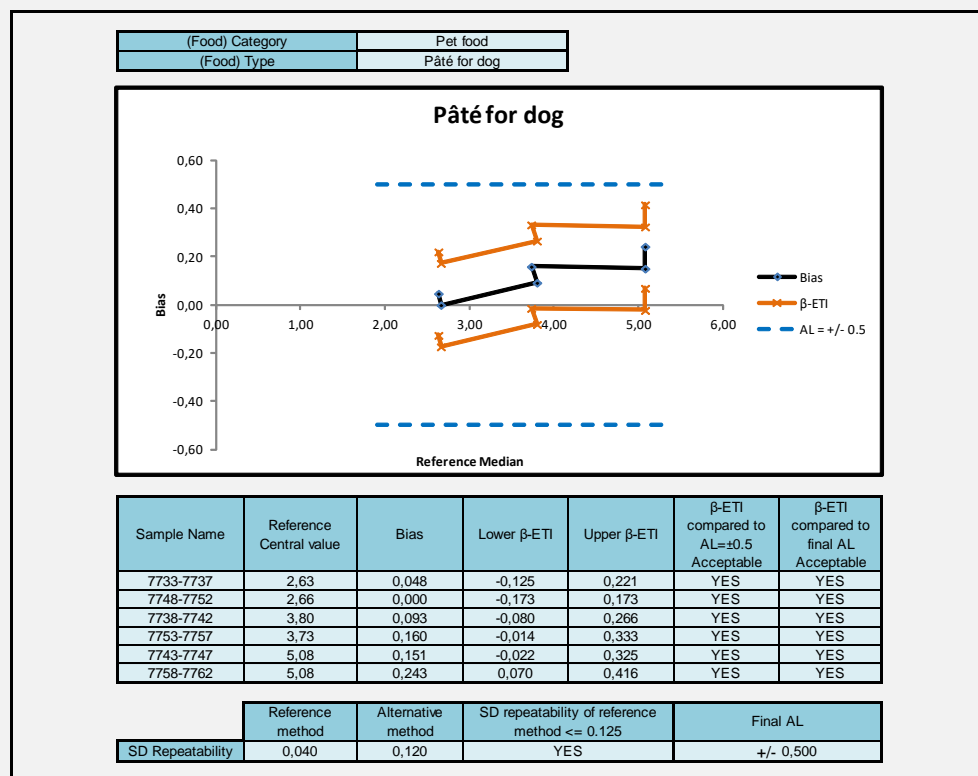
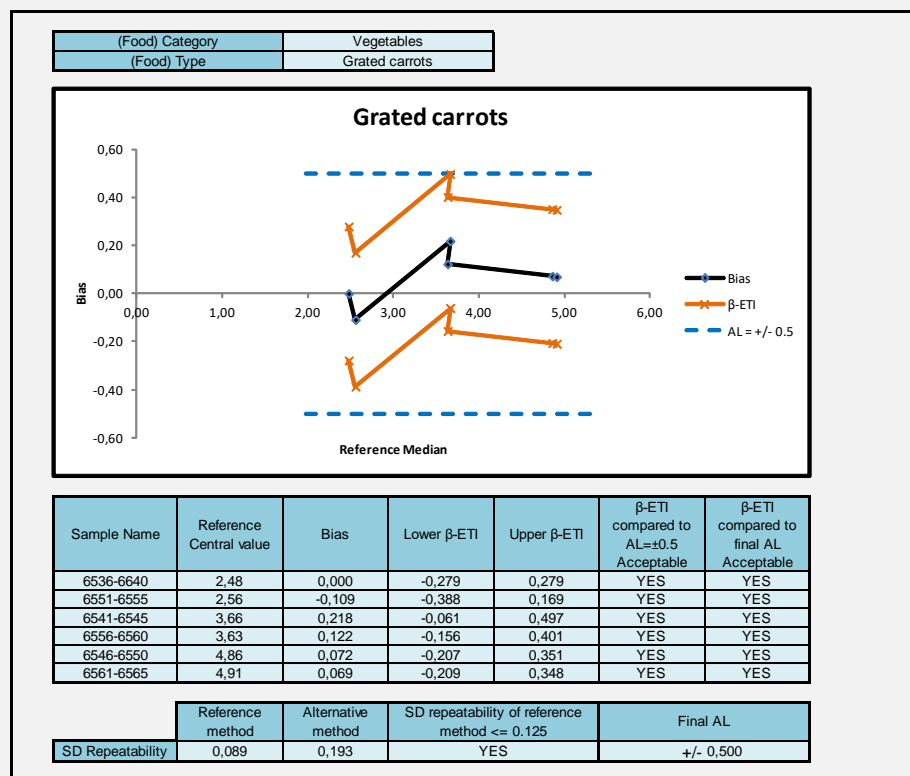
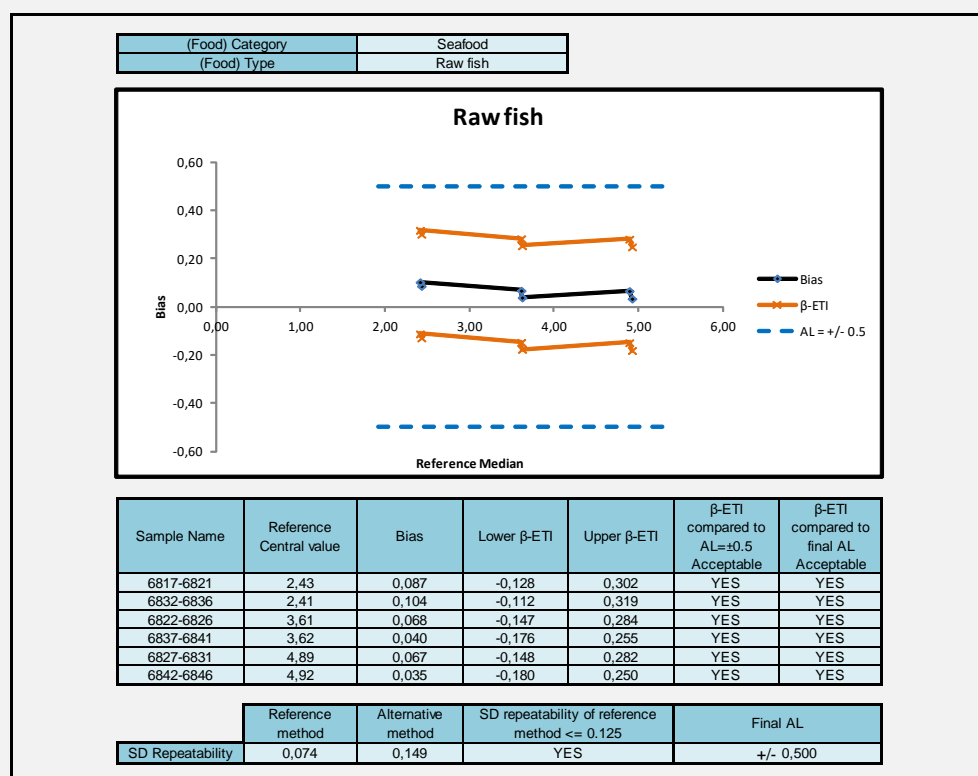
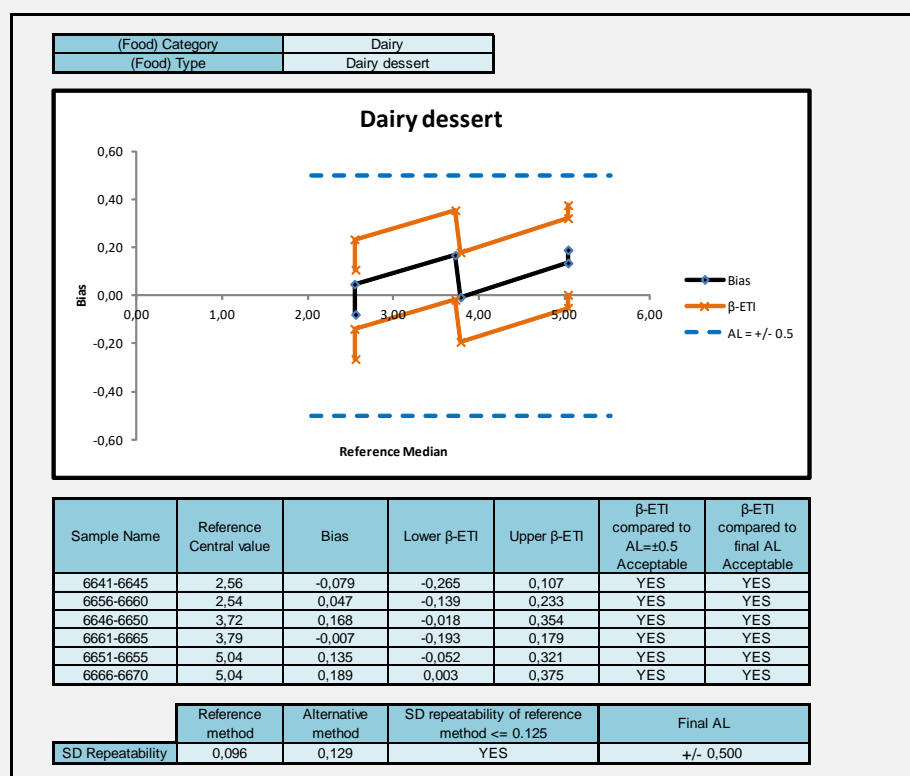
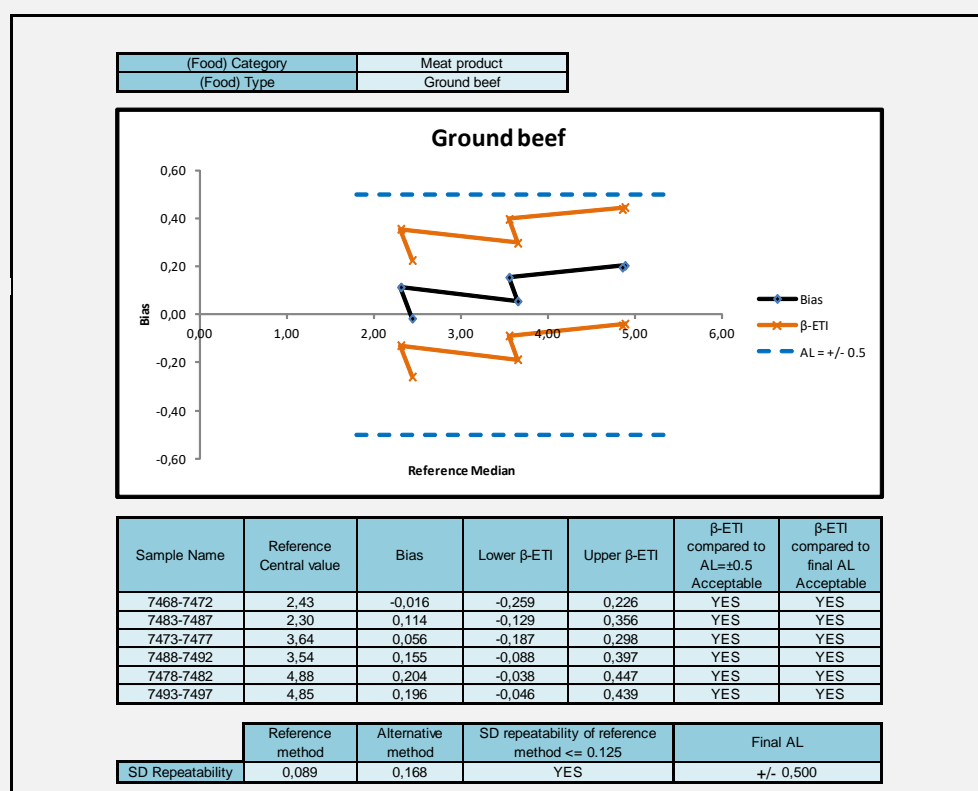
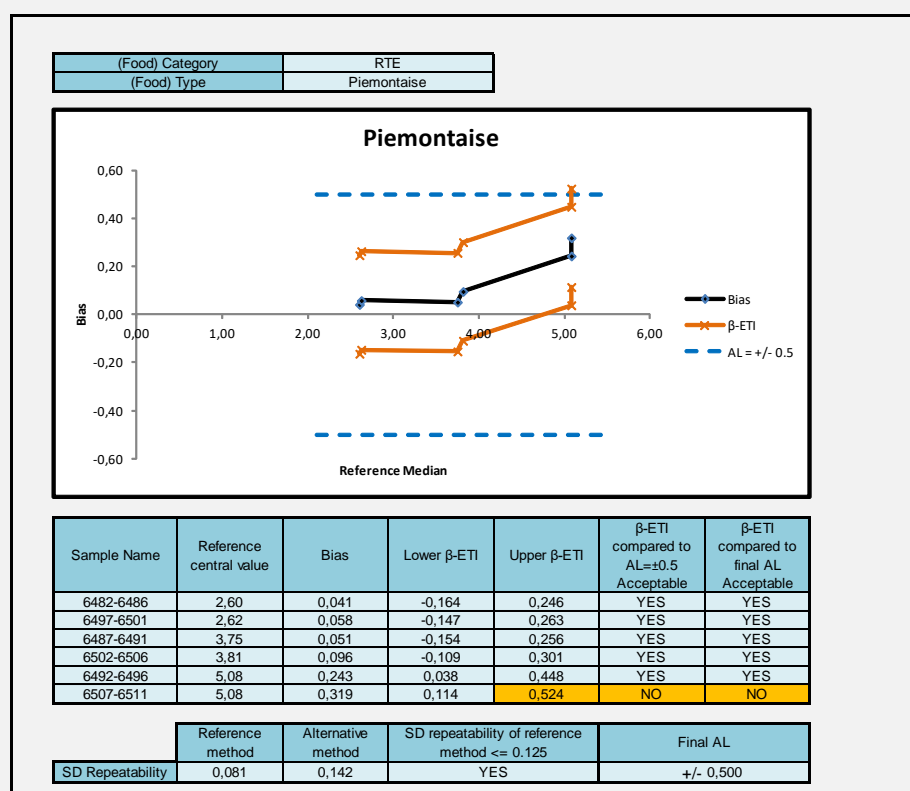
Category	Type	Matrix	Inoculated strain	Origin	Inoculation level (CFU/g)
Composite foods	Deli salad	Deli salad	<i>Serratia liquefaciens</i> 26	Egg product	300 5 000 100 000
Meat products	Raw meat	Ground beef	<i>Klebsiella oxytoca</i> 42	Unknown	
Dairy products	Dessert	Vanilla Dairy based cream	<i>Enterobacter agglomerans</i> 74	Cheese	
Seafood	Raw	Raw fish	<i>Enterobacter cloacae</i> Ad230	Tuna	
Vegetables and fruits	Ready to eat	Sliced carrots	<i>Escherichia coli</i> 19	Sliced carrots	
Pet food	High moisture	Pâté for dogs	<i>Citrobacter freundii</i> 35	Pork meat	

3.1.2.2 Calculation and interpretation

The raw data are provided in **Appendix 6**. The summary tables (in log CFU/g) and calculations are provided in **Appendix 7**. The statistical results and the accuracy profiles are provided on 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 31-07-2018 available on <http://standards.iso.org/iso/16140>.

Figure 10 – Accuracy profile



The lower and upper β ETI are within the acceptability limits for all the matrix/strain pairs tested, except for the deli salad (piémontaise) for which the upper β ETI value was higher than the AL for one batch at the higher inoculated level (upper β ETI = 0.524).

3.1.2.3 Conclusion

The observed profiles are comprised within the AL except in one case (higher inoculation level for one batch of deli salad). The accuracy profiles fulfil the performance criteria.

3.1.3 Quantification limits (LOQ)

The limit of Quantification (LOQ) is the lowest analyte concentration that can be quantified with an acceptable level of precision and trueness under the conditions of the test.

The LOQ was determined as is it needed for the instrumental methods which are related to the growth of the microorganism.

3.1.3.1 Experimental design

Blank samples were tested for each category. These blank samples were used to verify the limit of quantification of the alternative method. 10 test portions from the same sample were analysed. The same food type matrices than those tested in the accuracy profile were used.

3.1.3.2 Calculation and interpretation

The threshold standard deviation S_0 was calculated as followed:

$$s_0 = \frac{1}{n-1} \sum_{j=1}^n (y_j - \bar{y})^2$$

where:

n = the total number of test portions used

y_j = the log transformed result of test portion j

y = the average log transformed result of all test portions

The limit of quantification is calculated as $LOQ = 10 s_0$.

3.1.3.3 Results

Raw data and calculation are provided in **Appendix 8**. The results are summarized in table 9.

Table 9 - Quantification limits per tested matrix

Matrix	S ₀	LOQ
Deli salad	0	0
Ground beef	0	0
Vanilla Dairy based cream	0	0
Raw fish	0	0
Sliced carrots	0	0
Pâté for dogs	0	0

3.1.4 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.

3.1.4.1 Protocol

Inclusivity

30 target strains were tested for the initial validation study. The study was completed by testing 20 additional strains. The pure culture was grown in BHI broth under optimal growth conditions (24 h) and diluted at an appropriate level before testing. Each test was performed once with the alternative method, the reference method and a non-selective agar. The inoculation level shall obtain a countable number of the plate and with the TEMPO TC method.

Exclusivity

20 non-target strains were tested for the initial validation study. The study was completed by testing 10 additional strains. The pure culture was grown in BHI broth under optimal growth conditions (24 h) and diluted at an appropriate level before testing. Each test was performed once with the alternative method, the reference method and a non-selective agar. The inoculation level shall obtain a countable number of the plate and with the TEMPO TC method.

3.1.4.2 Results

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

Inclusivity

Among the 50 strains tested, all gave typical colonies on VRBL plates. 9 strains were not enumerated with the TEMPO TC method. The strains were confirmed using the protocol described in the reference method (i.e. inoculation of a BLBVB tube incubated for 24 h at 30°C). All the strains gave a negative result (no gas producing).

Exclusivity

18 strains gave typical colonies on VRBL plates while only 10 of them were enumerated using the TEMPO TC method. Note that 4 strains were confirmed as coliforms when tested in BLBVB.

The TEMPO TC method is more specific than the reference method; this could explain the results observed for the vegetable products in the relative trueness study.

3.1.4.3 Conclusion

The TEMPO TC method is more specific and selective than the ISO 4832 method. This could explain some of the results observed for the vegetables category in the trueness study.

3.1.5 Practicability

The alternative method practicability was evaluated according to the AFNOR criteria.

Storage conditions and shelf-life	The storage temperatures are between 2 and 25°C (room temperature before analyse) depending of the materials and reagents	
Time to result		
Steps	Reference method	Alternative method
<i>Sampling, stomach and analysis</i>	Day 0	Day 0
<i>Reading</i>	Day 1 or 2	Day 1
Common step with the reference method	Sampling, dilution and stomach	

3.2 Inter-laboratory study

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

The results of the inter-laboratory Study run in 2005 were interpreted according to the EN ISO 16140-2:2016 standard using Excel spread sheet available at <http://standards.iso.org/iso/16140> (AP Calculation tool ILS (clause 6.2.3 Calculation summary and interpretations of data) ver 14.03.2016).

3.2.1 Study organisation

12 collaborators participated to the study. Pasteurised half-skimmed milk was inoculated with *Escherichia coli* 94 isolated from a dairy product.

The target inoculation levels were:

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

3.2.2 *Experimental parameters control*

3.2.2.1 *Strain stability*

In order to evaluate the stability of the inoculated strain during transport and storage, bacterial count of samples was checked at different times, *i.e.* inoculation time, after 24 h and 48 h of storage at 4°C.

Six test portions (3 contamination levels x 2 replicates) were enumerated (See Table 10).

Table 10 - Strain stability in the matrix (ISO 4832, CFU/ml)

	Level 1		Level 2		Level 3	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Day 0	1,91	2,04	2,97	2,93	3,96	3,83
Day 1	1,89	1,77	2,92	2,99	3,83	3,90
Day 2	1,98	2,04	2,88	2,93	3,84	3,90

No evolution of the inoculated strain was observed between Day 0 and Day 2.

3.2.2.2 *Homogeneity of inoculation*

This test was not run for the inter-laboratory study as it was not required in 2013 (inter-laboratory study run according to the ISO 16140:2003).

3.2.3 *Analysis results*

The raw data are given in **Appendix 10**.

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.

Inoculation level (log CFU/g)	Reference method ISO 4832		Alternative method TEMPO® TC			
	Replicate 1	Replicate 2	Replicate 1		Replicate 2	
			D 1/40	D 1/400	D 1/40	D 1/400
< 1	< 1,00	< 1,00	< 1,00	< 1,00	< 2,00	< 2,00
1 to 2	1,89	1,77	1,85	2,08	2,00	< 2,00
2 to 3	2,92	2,99	2,92	2,86	2,93	2,86
3 to 4	3,83	3,90	3,83	3,83	4,32	4,08

Targeted contamination levels were reached.

3.2.3.2 Results obtained by the collaborators

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

Table 12 - Summary of data (log CFU/ml)

Laboratory	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	<1	<1	<1	2,00	1,95	2,00	1,85	2,90	2,96	2,97	3,23	3,95	3,95	4,08	3,72
B	<1	<1	<1	<1	2,04	2,00	2,00	2,11	2,93	2,98	3,04	3,04	4,00	3,92	4,32	4,04
C	<1	<1	<1	<1	1,93	2,00	1,86	2,11	2,71	2,83	2,86	2,72	3,85	3,85	3,96	4,08
D	<1	<1	<1	<1	1,98	1,90	1,64	2,00	2,91	2,91	3,00	2,72	3,89	3,95	4,08	4,04
E	<1	<1	<1	<1	2,04	2,11	1,77	1,84	2,93	2,93	2,92	2,86	3,93	3,99	4,04	3,89
F	<1	<1	<1	<1	1,88	1,95	2,00	1,85	2,83	2,90	2,80	2,86	3,94	3,93	4,04	4,08
G	<1	<1	<1	<1	1,98	2,11	2,04	2,04	2,80	2,90	3,11	2,76	3,85	3,77	3,96	4,32
H	<1	<1	<1	<1	2,00	1,78	2,15	2,15	2,77	2,82	2,96	3,00	3,89	3,95	4,32	4,40
I	<1	<1	<1	<1	2,08	1,95	2,08	1,85	2,86	2,95	3,04	3,04	3,93	3,94	4,08	4,18
J	<1	<1	<1	<1	1,81	1,85	1,00	1,86	3,04	2,90	2,86	2,92	3,85	3,87	3,96	3,89
K	<1	<1	<1	<1	1,98	1,85	1,93	1,77	2,90	2,91	2,92	3,08	3,89	3,95	4,08	4,04
L	<1	<1	<1	<1	2,04	1,93	1,65	2,11	2,92	2,97	2,95	3,08	3,96	4,00	4,18	4,48

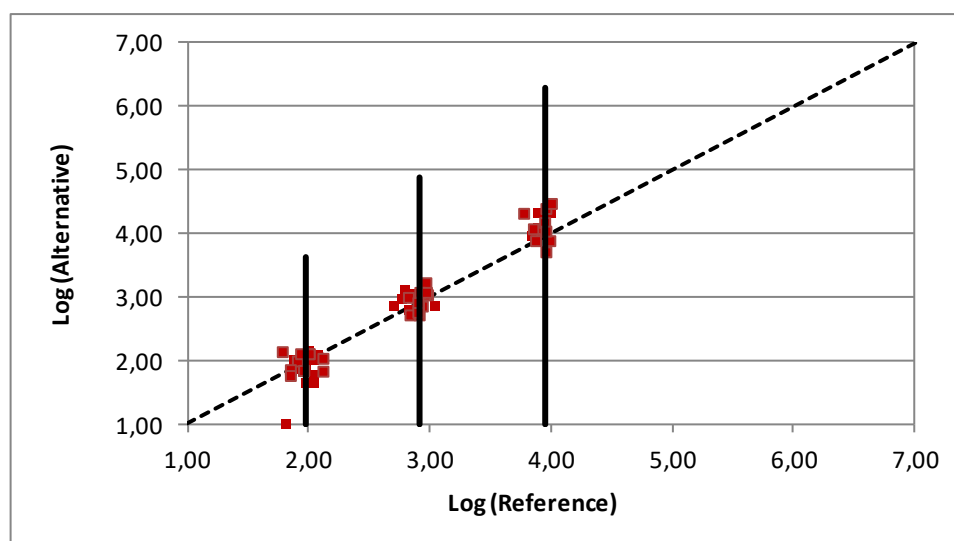
3.2.4 Calculations and interpretation

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 line.

Figure 11 - Visual linearity checking



3.2.4.2 Accuracy profile calculation

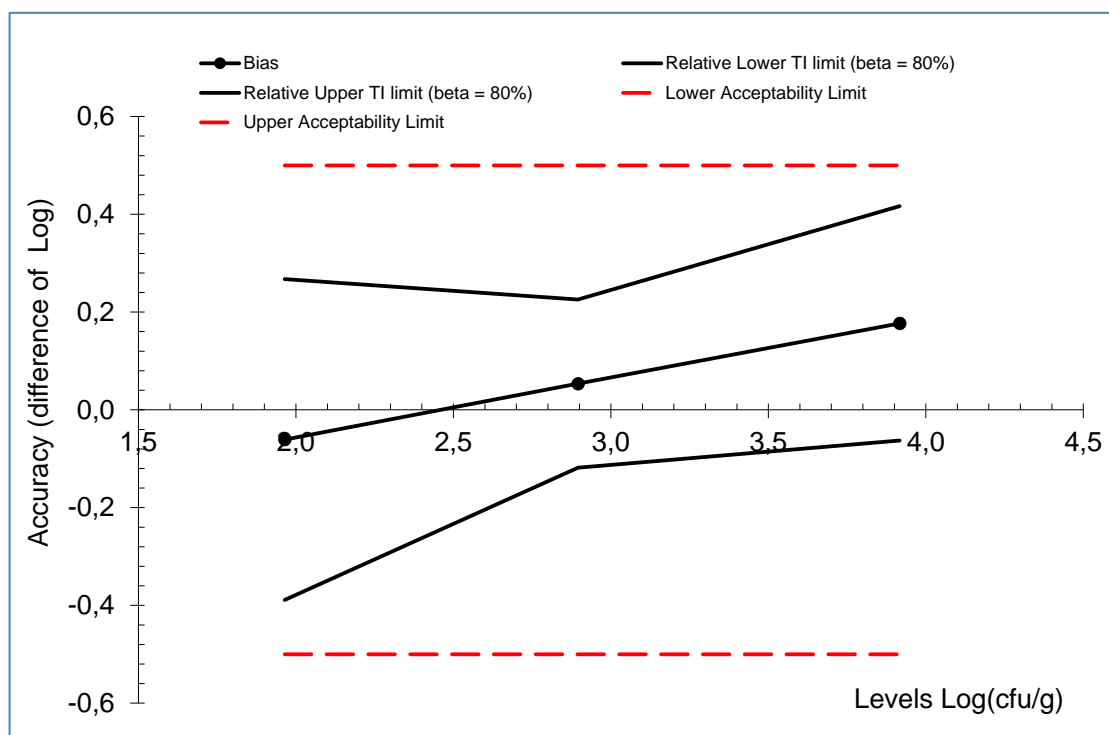
Statistical calculations were done according to the Excel spreadsheet available on <http://standards.iso.org/ISO/16140>. A summary of the statistical test is provided in Table 13.

Table 13 - Summary of the statistical test

Accuracy profile				<div style="border: 1px solid black; padding: 5px;"> Application of clause 6.2.3 Step 8: If any of the values for the β-ETI fall outside the acceptability limits, calculate the pooled average reproducibility standard deviation of the reference method. Step 9: Calculate new acceptability limits as a function of this standard deviation. </div>					
Study Name	TEMPO TC						FAUX		
Date									
Coordinator									
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	1,964	2,895	3,917						
Number of participants (K)	12	12	12	12	12	12			
Average for alternative method	1,904	2,949	4,094	1,964	2,895	3,917			
Repeatability standard deviation (sr)	0,232	0,119	0,143	0,076	0,054	0,035			
Between-labs standard deviation (sL)	0,074	0,045	0,102	0,046	0,050	0,046			
Reproducibility standard deviation (sR)	0,243	0,127	0,176	0,089	0,074	0,057			
Corrected number of dof	22,581	22,362	20,091	20,95 4	18,270	15,72 9			
Coverage factor	1,350	1,351	1,362						
Interpolated Student t	1,320	1,321	1,325						
Tolerance interval standard deviation	0,2487	0,1302	0,1810						
Lower TI limit	1,575	2,777	3,854						
Upper TI limit	2,232	3,121	4,334						
Bias	-0,061	0,054	0,177						
Relative Lower TI limit (beta = 80%)	-0,389	-0,118	-0,063	FAUX					
Relative Upper TI limit (beta = 80%)	0,268	0,226	0,417	FAUX					
Lower Acceptability Limit	-0,50	-0,50	-0,50						
Upper Acceptability Limit	0,50	0,50	0,50						
New acceptability limits may be based on reference method pooled variance									
Pooled repro standard dev of reference	0,075								

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

Figure 12



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 statistically different than those obtained with the reference method.

3.2.4.3 Inter-laboratory study conclusion

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

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.

3.3 General Conclusion

The **method comparison study conclusions** are:

- The relative trueness study of the alternative method is satisfying. The alternative method is reliable when compared to the reference method.
- The accuracy profiles fulfil the performance criteria.

- The TEMPO TC method is more specific and selective than the ISO 4832 method. This could explain some of the results observed for the vegetables category in the trueness study.

The **inter-laboratory study conclusions** are:

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

- 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.

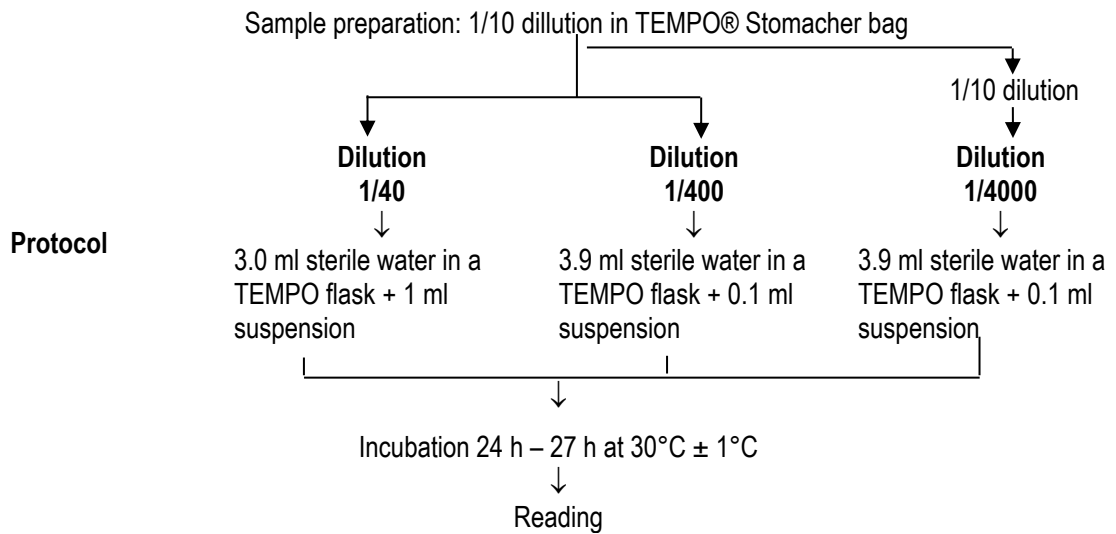
Quimper, 29 October 2021

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 - Flow diagram of the alternative method: TEMPO TC

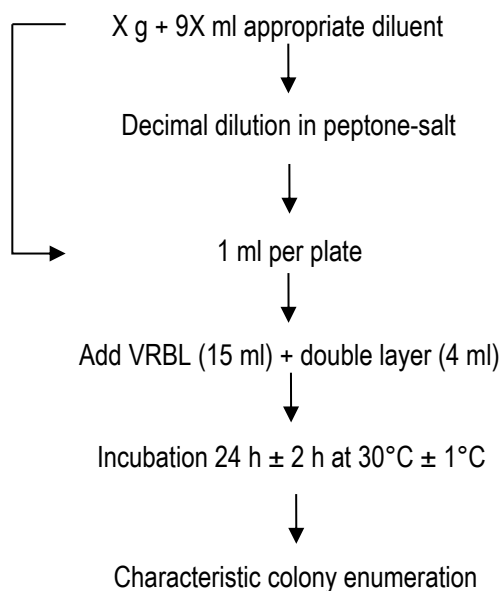


The 1/40 dilution allows 10 to 49 000 cfu/g enumeration.

The 1/400 dilution allows 100 to 490 000 cfu/g enumeration.

The 1/4000 dilution allows 1 000 to 4 900 000 cfu/g enumeration.

**Appendix 2 - Flow diagram of the reference method: NF ISO 4832 (2006):
Microbiology of food and animal feeding stuffs — Horizontal method for the
enumeration of coliforms — Colony-count technique**



Appendix 3 - Artificial contamination of the samples

Year of analysis	Sample N°	Product	Inoculated strain	Origin	Injury applied	Injury evaluation	Category
2011	2059	Chili con carné	<i>Escherichia coli</i> 144	Paella	Seeding Heat treatment 15min 56°C	/	1
2011	2061	Crab nem	<i>Escherichia coli</i> 93	Ready to cook cod	Seeding Heat treatment 15min 56°C	/	1
2011	2062	Cocktail pie	<i>Escherichia coli</i> Ad 222	Egg product	Seeding Heat treatment 15min 56°C	/	1
2011	2063	Cocktail pie	<i>Escherichia coli</i> 142	Egg product	Seeding HT 56°C 10 min	/	1
2011	2064	Strawberries pie	<i>Escherichia coli</i> Ad 222	Egg product	Seeding HT 56°C 10 min	/	1
2011	2065	Pork nem	<i>Escherichia coli</i> 108	Ready to cook meal	Seeding HT 56°C 10 min	/	1
2011	2066	Chinese ready to eat food	<i>Escherichia coli</i> 108	Ready to cook meal	Seeding HT 56°C 15 min	/	1
2011	2121	Salad (bulghur and vegetables)	<i>Escherichia coli</i> 19	Sliced carrots	Seeding 4°C 8 days	/	1
2011	2122	Sandwich (smoked salmon and chives)	<i>Escherichia coli</i> 93	Ready to cook cod	Seeding 4°C 8 days	/	1
2011	2123	Oriental tabbouleh	<i>Escherichia coli</i> 108	Ready to cook meal	Seeding 4°C 8 days	/	1
2011	2148	Cooked rice (tuna and basil)	<i>Escherichia coli</i> 93	Ready to cook cod	Seeding HT 56°C 10 min	/	1
2011	2149	Vegetable quiche	<i>Escherichia coli</i> 93	Ready to cook cod	Seeding HT 56°C 10 min	/	1
2011	2150	Pasta salad (Salmon and mayonnaise)	<i>Escherichia coli</i> Ad 222	Egg product	Seeding HT 56°C 10 min	/	1
2011	2151	Sandwich (ham and vegetables)	<i>Escherichia coli</i> Ad 222	Egg product	Seeding 4°C 1 day	/	1
2011	2183	Frozen links quiche	<i>Escherichia coli</i> 142	Egg product	Seeding 6 days at -20°C	/	1
2011	2363	Carrot celery salad	<i>Escherichia coli</i> 19	Sausage	Seeding 7 days at 4°C	/	1

Year of analysis	Sample N°	Product	Inoculated strain	Origin	Injury applied	Injury evaluation	Category
2011	2367	Frozen tomato and pepper pie	<i>Escherichia coli</i> 142	Egg product	Seeding 7 days -20°C	/	1
2011	2368	Ham, tomato and egg sandwich	<i>Escherichia coli</i> 101	Pork	Seeding HT 56°C 10 min	/	1
2011	2483	Salad (Piémontaise)	<i>Escherichia coli</i> 108	Ready to eat meal	Seeding HT 56°C 10 min	/	1
2011	2152	Smoked sausages	<i>Escherichia coli</i> 21	Cured breast	Seeding HT 56°C 10 min	/	2
2011	2153	Montbéliard sausage	<i>Escherichia coli</i> 21	Cured breast	Seeding HT 56°C 10 min	/	2
2011	2185	Sausages	<i>Escherichia coli</i> 6	Sausage	6 days at 4°C	/	2
2011	2369	Cooked ham	<i>Escherichia coli</i> 101	Pork	Seeding HT 56°C 10 min	/	2
2011	2370	Turkey cutley	<i>Escherichia coli</i> Ad 218	Poultry	Seeding HT 56°C 10 min	/	2
2011	2471	Chorizo	<i>Escherichia coli</i> 1	Pork	Seeding HT 56°C 10 min	/	2
2011	2472	Chorizo	<i>Escherichia coli</i> 1	Pork	Seeding HT 56°C 10 min	/	2
2011	2473	Garlic sausage	<i>Escherichia coli</i> 1	Pork	Seeding HT 56°C 10 min	/	2
2011	2474	White chicken meat	<i>Escherichia coli</i> Ad 218	Poultry	Seeding HT 56°C 10 min	/	2
2011	2477	Smoked bacon	<i>Escherichia coli</i> 21	Pork	Seeding 7 days at 4°C	/	2
2011	2478	Sliced bacon	<i>Escherichia coli</i> 1	Pork	Seeding 7 days at 4°C	/	2
2011	2479	Raw ham	<i>Escherichia coli</i> 21	Pork	Seeding 7 days at 4°C	/	2
2011	5100	Raw cow milk	<i>Escherichia coli</i> 14	Raw milk	Spiking 7 days at 4°C	0,5	3
2011	5101	Raw cow milk	<i>Escherichia coli</i> 94	Cheese	Spiking 7 days at 4°C	0,5	3

Year of analysis	Sample N°	Product	Inoculated strain	Origin	Injury applied	Injury evaluation	Category
2011	5102	Raw cow milk	<i>Escherichia coli</i> E17	Raw milk	Spiking 7 days at 4°C	0,5	3
2011	5103	Raw cow milk	<i>Escherichia coli</i> 14	Raw milk	Spiking 7 days at 4°C	0,5	3
2011	5104	Raw cow milk	<i>Escherichia coli</i> 119	Raw milk	Spiking 7 days at 4°C	0,5	3
2011	5105	Raw cow milk	<i>Escherichia coli</i> 94	Cheese	Spiking 7 days at 4°C	0,5	3
2017	8072	Dairy dessert	<i>Enterobacter aerogenes</i> Ad2569	Cheese	Seeding 48h at 2-8°C	/	3
2017	8073	Dairy dessert	<i>Enterobacter aerogenes</i> Ad2569	Cheese	Seeding 48h at 2-8°C	/	3
2017	8074	Custard	<i>Enterobacter aerogenes</i> Ad2569	Cheese	Seeding 48h at 2-8°C	/	3
2017	8075	Smoked trout	<i>Citrobacter braakii</i> Ad2701	Squid	Seeding 48h at 2-8°C	/	4
2017	8076	Smoked herring	<i>Citrobacter braakii</i> Ad2701	Squid	Seeding 48h at 2-8°C	/	4
2017	8267	Raw fish	<i>Citrobacter braakii</i> Ad2701	Squid	Seeding 48h at 2-8°C	/	4
2011	2058	Ratatouille	<i>Escherichia coli</i> 19	Sliced carrots	Seeding HT 56°C 15 min	/	5
2011	2060	Cooked sliced carrots	<i>Escherichia coli</i> 144	Paella	Seeding HT 56°C 10 min	/	5
2011	2120	Frozen ratatouille	<i>Escherichia coli</i> 19	Sliced carrots	-20°C 8 days	/	5
2011	2365	Mixed vegetables	<i>Escherichia coli</i> 144	Paella	Seeding HT 56°C 10 min	/	5
2011	2366	Mixed vegetables	<i>Escherichia coli</i> 144	Paella	Seeding HT 56°C 10 min	/	5
2017	8263	Dried carrots	<i>Escherichia coli</i> 19	Grated carrots	Spiking HT 56°C 10 min	0,75	5
2017	8264	Dried leeks	<i>Escherichia coli</i> 19	Grated carrots	Spiking HT 56°C 10 min	0,75	5
2017	8265	Dried carrots	<i>Citrobacter freundii</i> 25	Spinach	Spiking HT 56°C 10 min	0,57	5
2017	8077	Pellets for dog (beef, chicken, liver)	<i>Escherichia fergusonii</i> 2876	Environmental sample	HT 56°C 8 min	1,28	6
2017	8078	Pellets for dog (beef)	<i>Escherichia fergusonii</i> 2876	Environmental sample	HT 56°C 8 min	1,28	6
2017	8249	Pellets for dog (beef / vegetables)	<i>Citrobacter koseri</i> Ad2731	Vegetables	HT 56°C 8 min	0,51	6

Year of analysis	Sample N°	Product	Inoculated strain	Origin	Injury applied	Injury evaluation	Category
2017	8250	Pellets for dog (meats / vegetables / cereals)	<i>Citrobacter koseri</i> Ad2731	Vegetables	HT 56°C 8 min	0,51	6
2017	8251	Pellets for cat (liver / beef / chicken / cheese)	<i>Escherichia fergusonii</i> 2876	Environmental sample	HT 56°C 8 min	0,53	6
2017	8252	Pellets for dog (chicken / vegetables)	<i>Citrobacter farmeri</i> Ad1116	Environmental sample	HT 56°C 8 min	0,47	6

Appendix 4 - Relative trueness study: raw data

COMPOSITE FOODS																				
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2	Mean		
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g	log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g	log CFU/g		
2005	490	Millefeuille Chantilly	Pastry	10	3	4	2	7	35	45	1,54	1,65	1,60	55	33	1,74	1,52	1,63	1	a
				100	0	0	0	0	Ne	Ne			Ne	a	a					
2005	491	Galette de blé noir	Buckwheat Crepe	1000	0	0	0	0	<1000	<1000	<3,00	<3,00	<3,00	<100	<100	<2,00	<2,00	<2,00	1	a
				10000	0	0	0	0						b	b					
2005	492	Galette de blé noir	Buckwheat Crepe	100000	>150	>150	>150	>150	>150000000	>150000000	>8,18	>8,18	>8,18	>4900000	>4900000	>6,69	>6,69	>6,69	1	a
				1000000	>150	>150	>150	>150						c	c					
2011	2062	Tartelette cocktail	Cocktail pie	10	34				380		2,58		2,58	400		2,60		2,60	1	a
				100	8									a						
2011	2063	Tartelette cocktail	Cocktail pie	100	31				3000		3,48		3,48	3700		3,57		3,57	1	a
				1000	2									a						
2011	2064	Tartelette fraise	Strawberries pie	1000	35				34000		4,53		4,53	49000		4,69		4,69	1	a
				10000	2									a						
2011	2122	Sandwich saumon fumé ciboulette	Sandwich (smoked salmon and chives)	1000	32				34000		4,53		4,53	37000		4,57		4,57	1	a
				10000	5									a						
2011	2151	Sandwich jambon œuf crudités	Sandwich (ham and vegetables)	100	46				4600		3,66		3,66	2600		3,41		3,41	1	a
				1000	5									a						
2011	2368	Sandwich jambon œuf tomate	Ham, tomato and egg sandwich	10	>150				2600		3,41		3,41	930		2,97		2,97	1	a
				100	26				N'		N'		N'	a						
2005	488	Langue de bœuf sauce piquante	Beef tongue	100	68	57	70	69	6400	7400	3,81	3,87	3,84	2100	2900	3,32	3,46	3,39	1	b
				1000	9	7	8	15						a	a					
2005	503	Bouchée à la reine	Ready to reheat meal	10	58	53	50	31	560	380	2,75	2,58	2,66	460	360	2,66	2,56	2,61	1	b
				100	7	6	1	2						a	a					
2011	2059	Chili con carné	Chili con carné	10	>150				3000		3,48		3,48	2700		3,43		3,43	1	b
				100	30				N'		N'		N'	a						
2011	2061	Nems au crabe	Crab nem	10	110				1100		3,04		3,04	580		2,76		2,76	1	b
				100	13									a						
2011	2065	Nems au porc	Pork nem	100	59				5600		3,75		3,75	2400		3,38		3,38	1	b
				1000	3									a						
2011	2066	Ravioli chinois au porc	Chinese ready to eat food	10	92				940		2,97		2,97	360		2,56		2,56	1	b
				100	11									a						
2011	2149	Quiche aux légumes	Vegetable quiche	10	142				1400		3,15		3,15	2100		3,32		3,32	1	b
				100	11									a						
2011	2183	Quiche aux poireaux surgelée	Frozen links quiche	1000	71				67000		4,83		4,83	91000		4,96		4,96	1	b
				10000	3									b						
2011	2367	Tarte tomate poivron surgelée	Frozen tomato and pepper pie	1000	>150				270000		5,43		5,43	190000		5,28		5,28	1	b
				10000	27				N'		N'		N'	c						
2005	1659	Nems	Chinese rolls	10	>150	>150	>150	>150	1100	650	3,04	2,81	2,93	57	120	1,76	2,08	1,92	1	b
				100	11	10	8	5						a						

* Analyses performed according to the COFRAC accreditation

COMPOSITE FOODS																				
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC					Category	Type	
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2			Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g	log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g			log CFU/g
2005	1666	Chili con carné (haricots)	Chili con carne (beans)	100	19	18	11	19	1900	1500	3,28	3,18	3,23	140	120	2,15	2,08	2,11	1	b
				1000	2	2	2	2						a						
2005	1554	Feuilleté aux épinards	Puff pastry and spinach	10	44	53	45	52	490	510	2,69	2,71	2,70	570	830	2,76	2,92	2,84	1	b
				100	6	4	7	7						a						
2005	1655	Tarte tomates légumes	Tomatoes and vegetables pie	10	2	5	3	3	35	30	1,54	1,48	1,51	45	44	1,65	1,64	1,65	1	b
				100	0	0	0	0						a						
2005	1656	Plat chinois carottes poivrons	Chinese food (carrots and pepper)	10000	136	134	170	138	1400000	1500000	6,15	6,18	6,16	1200000	1700000	6,08	6,23	6,15	1	b
				100000	20	12	16	14						b						
2005	1664	Feuilleté à la tomate	Puff pastry and tomatoes	10	36	30	44	44	320	440	2,51	2,64	2,57	360	560	2,56	2,75	2,65	1	b
				100	2	3	4	4						a						
2005	1668	Plat chinois à base de légumes	Chinese food (vegetables)	10000	>150	>150	>150	>150	11000000	13000000	7,04	7,11	7,08	300000	250000	5,48	5,40	5,44	1	b
				100000	104	114	116	137						b						
2011	2121	Salade boulghour légumes du soleil	Salad (bulghur and vegetables)	100	91				9300		3,97		3,97	11000		4,04		4,04	1	c
				1000	11									a						
2011	2123	Taboulé à l'orientale	Oriental tabouleh	10	13				150		2,18		2,18	32		1,51		1,51	1	c
				100	3									a						
2011	2148	Riz à la provençale thon basilic	Cooked rice (tuna and basil)	100	70				6600		3,82		3,82	15000		4,18		4,18	1	c
				1000	3									a						
2011	2150	Salade de pâtes saumon mayonnaise	Pasta salad (Salmon and mayonnaise)	10	127				1300		3,11		3,11	690		2,84		2,84	1	c
				100	12									a						
2011	2363	Salade carotte céleri	Carrots celery salad	10	43				460		2,66		2,66	390		2,59		2,59	1	c
				100	7									a						
2011	2483	Piémontaise au jambon	Salad (Piémontaise)	100	101				10000		4,00		4,00	25000		4,40		4,40	1	c
				1000	12									a						
2005	1549	Salade surimi carottes	Salad surimi carrots	10	11	12	15	7	110	110	2,04	2,04	2,04	110	89	2,04	1,95	2,00	1	c
				100	1	1	2	1						a						
2005	1556	Riz crabe carottes	Rice crab carrots	100	56	54	47	46	5500	4900	3,74	3,69	3,72	5300	6000	3,72	3,78	3,75	1	c
				1000	7	4	9	5						a						
2005	1557	Piémontaise	Salad (Piémontaise)	1000	26	25	24	28	25000	25000	4,40	4,40	4,40	15000	17000	4,18	4,23	4,20	1	c
				10000	3	0	1	2						a						
2005	1654	Piémontaise	Salad (Piémontaise)	10	15	15	17	13	136	136	2,13	2,13	2,13	10	45	1,00	1,65	1,33	1	c
				100	0	0	0	0						a						

MEAT PRODUCTS																				
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2	Mean		
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g	log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g	log CFU/g		
2005	425	Blanc de poule sans peau	Poultry meat	10	24	19	25	17	210	210	2,32	2,32	2,32	86	130	1,93	2,11	2,02	2	a
				100	2	1	4	1						a	a					
2005	426	VSM	Mechanically separated meat	10	115	111	113	93	1100	1000	3,04	3,00	3,02	500	430	2,70	2,63	2,67	2	a
				100	13	7	12	7						a	a					
2005	427	Blanc de poule sans peau	Poultry meat	100	>150	>150	>150	>150	43000	34000	4,63	4,53	4,58	15000	8200	4,18	3,91	4,04	2	a
				1000	40	46	30	37						a	a					
2005	428	Blanc de poule	Poultry meat	100	15	30	23	22	2400	2200	3,38	3,34	3,36	330	530	2,52	2,72	2,62	2	a
				1000	3	5	3	1						a	a					
2005	494	Pilon de poulet	Poultry meat	100	Enumeration impossible				ND	ND	ND	ND	ND	490000	490000	5,69	5,69	5,69	2	a
				1000										b	b					
2005	495	Cuisse de poulet	Poultry meat	10	Enumeration impossible				ND	ND	ND	ND	ND	49000	49000	4,69	4,69	4,69	2	a
				100										a	a					
2005	496	Filet de canard	Duck meat	10	>150	>150	>150	>150	>1500	>1500	>3,18	>3,18	>3,18	37000	21000	4,57	4,32	4,45	2	a
				100	>150	>150	>150	>150						a	a					
2005	1913	Viande d'échine de dinde broyée	Ground turkey meat	1000	Illegible				110000		5,04		5,04	49000		4,69		4,69	2	a
				10000	11				N'		N'		N'	a						
2005	1915	Carcasse de dinde	Turkey carcass	1000	30				30000		4,48		4,48	21000		4,32		4,32	2	a
				10000	4									a						
2005	1916	Viande rouge de dinde dénercée	Turkey red meat	100	13				1300		3,11		3,11	1600		3,20		3,20	2	a
				1000	1									a						
2005	1917	VSM de poulet	Chicken mechanically deboned meat	1000	>150				400000		5,60		5,60	46000		4,66		4,66	2	a
				10000	40				N'		N'		N'	a						
2005	1918	Cornet de porc	Pork meat	100	101				10000		4,00		4,00	15000		4,18		4,18	2	a
				1000	11									a						
2005	1919	PV 3 mm Porc	Pork meat	1000	89				90000		4,95		4,95	110000		5,04		5,04	2	a
				10000	10									b						
2011	2370	Escalope de dinde	Turkey cutley	10	109				1200		3,08		3,08	2300		3,36		3,36	2	a
				100	18									a						
2011	2474	Blanc de poulet	White chicken meat	1000	>150				700000		5,85		5,85	910000		5,96		5,96	2	a
				10000	70				N'		N'		N'	c						
2005	424	Chipolatas aux herbes	Sausage with herbs	10	37	53	40	46	480	410	2,68	2,61	2,65	210	210	2,32	2,32	2,32	2	b
				100	9	7	3	2						a	a					
2005	429	Saucisses	Sausages	100	44	33	34	45	3700	3700	3,57	3,57	3,57	1700	2000	3,23	3,30	3,27	2	b
				1000	2	3	1	2						a	a					
2005	501	Saucisses de Francfort	Sausages	10	3	3	3	5	30	40	1,48	1,60	1,54*	21	10	1,32	1,00	1,16	2	b
				100	0	0	0	0	e	e				a	a					
2005	1865	Chipolatas surgelées	Frozen sausages	10	15				150		2,18		2,18	120		2,08		2,08	2	b
				100	1									a						
2005	1866	Brochette de dinde	Turkey skewer	1000	>150				1200000		6,08		6,08	150000		5,18		5,18	2	b
				10000	121				N'		N'		N'	b						
2005	1867	Brochette de dinde colombo	Colombo turkey skewer	10	>150				>15000		>4,18		>4,18	21000		4,32		4,32	2	b
				100	>150									a						

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MEAT PRODUCTS																				
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2	Mean		
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g	log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g	log CFU/g		
2005	1868	Viande d'épaule de dinde saumurée	Cured turkey meat	100	67				7000		3,85		3,85	11000		4,04		4,04	2	b
				1000	10									a						
2005	1869	Chipolatas	Sausages	100	20				2200		3,34		3,34	1200		3,08		3,08	2	b
				1000	4									a						
2005	1870	Chipolatas	Sausages	100	16				1500		3,18		3,18	1100		3,04		3,04	2	b
				1000	1									a						
2005	1871	Saucisse fumée	Smoked sausage	100	17				1800		3,26		3,26	1200		3,08		3,08	2	b
				1000	3									a						
2005	1911	Paupiette bardée	Meat balls	10	111				1100		3,04		3,04	710		2,85		2,85	2	b
				100	9									a						
2005	1912	Paupiette bardée	Meat balls	10	111				1200		3,08		3,08	770		2,89		2,89	2	b
				100	20									a						
2011	2152	Saucisses fumées bio	Smoked sausages	10	63				640		2,81		2,81	280		2,45		2,45	2	b
				100	7									a						
2011	2153	Saucisses de Montbéliard fumées au bois de hêtre	Montbéliard sausage	100	42				4000		3,60		3,60	5500		3,74		3,74	2	b
				1000	2									a						
2011	2185	Saucisses natures	Sausages	100	48				4800		3,68		3,68	2700		3,43		3,43	2	b
				1000	5									a						
2011	2478	Poitrine fumée tranches fines	Sliced bacon	100	>150				15000		4,18		4,18	37000		4,57		4,57	2	b
				1000	15				N'		N'		N'	a						
2005	430	Jambon sec italien	Dried ham	10	1	0	1	0	5	5	0,70	0,70	0,70*	<10	10	<1,00	1,00	1,00	2	c
				100	0	0	0	0	e	e				a	a					
2005	431	Jambon de Bayonne	Dried ham	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	2	c
				100	0	0	0	0						a	a					
2005	432	Viande des Grisons	Dried beef meat ("viande des grisons)	10	1	1	1	0	10	5	1,00	0,70	0,85*	10	<10	1,00	<1,00	<1,00	2	c
				100	0	0	0	0	e	e				a	a					
2005	433	Assortiment campagnard	Delicatessen	10	0	1	0	1	5	5	0,70	0,70	0,70*	21	<10	1,32	<1,00	1,32	2	c
				100	0	0	0	0	e	e				a	a					
2005	504	Mousse de canard	Duck pâté	1000	>150	>150	>150	>150	>150000	>150000	>5,18	>5,18	>5,18	>490000	>490000	>5,69	>5,69	>5,69	2	c
														b	b					
2005	505	Jambon cuit	Ham	100	29	35	37	44	3100	4000	3,49	3,60	3,55	220	300	2,34	2,48	2,41	2	c
				1000	3	1	3	3						a	a					
2011	2369	Jambon cuit à la broche	Cooked ham	10	9				90		1,95		1,95	180		2,26		2,26	2	c
				100	2				Ne		Ne		Ne	a						
2011	2471	Chorizo	Chorizo	100	37				3500		3,54		3,54	1700		3,23		3,23	2	c
				1000	2									a						
2011	2472	Chorizo	Chorizo	100	23				2500		3,40		3,40	2400		3,38		3,38	2	c
				1000	5									a						
2011	2473	Saucisson à l'ail	Garlic sausage	100	77				7600		3,88		3,88	6800		3,83		3,83	2	c
				1000	7									a						
2011	2477	Filets de bacon fumé	Smoked bacon	100	28				2700		3,43		3,43	5500		3,74		3,74	2	c
				1000	2									a						
2011	2479	Jambon cru	Raw ham	1000	41				39000		4,59		4,59	91000		4,96		4,96	2	c
				10000	2									b						

DAIRY PRODUCTS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type	
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2			Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g			log CFU/g
2011	4714	Lait cru de vache	Raw cow milk	1000	>150	126	145	158	140000	150000	/	5,15	5,18	5,16	>490000 b	>490000 b	>5,69	>5,69	>5,69	3	a
				10000	21	21	8	23													
2011	4715	Lait cru de vache	Raw cow milk	100	19	13	18	23	1500	1900	/	3,18	3,28	3,23	6000 a	12000 a	3,78	4,08	3,93	3	a
				1000	0	0	0	1													
2011	4716	Lait cru de vache	Raw cow milk	10	0	2	1	3	10*	20*	/	1,00*	1,30*	1,15*	<10 a	21 a	<1,00	1,32	<1,16	3	a
				100	0	0	0	0													
2011	4717	Lait cru de vache	Raw cow milk	10	21	20	26	19	200	210	/	2,30	2,32	2,31	140 a	260 a	2,15	2,41	2,28	3	a
				100	2	1	1	0													
2011	4912	Lait cru de vache	Raw cow milk	10	28	21	20	14	240	240	/	2,38	2,38	2,38	1500 a	2100 a	3,18	3,32	3,25	3	a
				100	2	1	12	7													
2011	4913	Lait cru de vache	Raw cow milk	1000	0	0	0	0	<1000	<1000	/	<3,00	<3,00	<3,00	21 a	21 a	1,32	1,32	1,32	3	a
				10000	0	0	0	0													
2011	4914	Lait cru de vache	Raw cow milk	1000	0	0	0	0	<1000	<1000	/	<3,00	<3,00	<3,00	21 a	<10 a	1,32	<1,00	<1,16	3	a
				10000	0	0	0	0													
2011	5054	Lait cru de vache	Raw cow milk	100	47	46	42	47	4700	4500	/	3,67	3,65	3,66	3600 a	3000 a	3,56	3,48	3,52	3	a
				1000	5	5	6	4													
2011	5055	Lait cru de vache	Raw cow milk	10	41	52	37	42	480	410	/	2,68	2,61	2,65	250 a	330 a	2,40	2,52	2,46	3	a
				100	5	7	11	1													
2011	5056	Lait cru de vache	Raw cow milk	10	0	4	0	3	20*	15	/	1,30*	1,18*	1,24*	<10 a	10 a	<1,00	1,00	1,00	3	a
				100	0	0	0	0													
2011	5100	Lait cru de vache	Raw cow milk	100	>150	>150	>150	>150	>150000	>150000	/	>5,18	>5,18	>5,18	300000 b	300000 b	5,48	5,48	5,48	3	a
				1000	>150	>150	>150	>150													
2011	5101	Lait cru de vache	Raw cow milk	100	>150	>150	>150	>150	>150000	>150000	/	>5,18	>5,18	>5,18	370000 b	370000 b	5,57	5,57	5,57	3	a
				1000	>150	>150	>150	>150													
2011	5102	Lait cru de vache	Raw cow milk	100	>150	>150	>150	>150	>150000	>150000	/	>5,18	>5,18	>5,18	>490000 b	370000 b	>5,69	5,57	>5,63	3	a
				1000	>150	>150	>150	>150													
2011	5103	Lait cru de vache	Raw cow milk	100	35	43	42	33	3900	3800	/	3,59	3,58	3,59	5500 a	3400 a	3,74	3,53	3,64	3	a
				1000	3	4	4	4													
2011	5104	Lait cru de vache	Raw cow milk	100	39	29	35	30	3300	3200	/	3,52	3,51	3,51	2700 a	2900 a	3,43	3,46	3,45	3	a
				1000	2	2	1	5													
2011	5105	Lait cru de vache	Raw cow milk	100	20	22	19	8	2000	1300	/	3,30	3,11	3,21	1900 a	1500 a	3,28	3,18	3,23	3	a
				1000	1	1	1	1													
2011	5112	Lait cru de chèvre	Raw goat milk	100	10	4	4	3	730	320	/	2,86	2,51	2,68	360 a	390 a	2,56	2,59	2,57	3	a
				1000	1	1	0	0													
2011	5113	Lait cru de chèvre	Raw goat milk	100	52	60	73	55	5500	6500	/	3,74	3,81	3,78	4800 a	7800 a	3,68	3,89	3,79	3	a
				1000	3	5	5	10													
2011	5114	Lait cru de chèvre	Raw goat milk	100	0	0	0	0	<100	<100	/	<2,00	<2,00	<2,00	10 a	33 a	1,00	1,52	1,26	3	a
				1000	0	0	0	0													
2005	489	Beurre	Butter	1	1	0	1	0	1	1	/	0,00	0,00	0,00	<1(1/4)	<1(1/4)	<0,00	<0,00	<0,00	3	b
				10	0	0	0	0													
2005	502	Emmental râpé	Grated cheese	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10 a	<10 a	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0													
2005	911	Fromage frais	Fresh cheese	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10 a	<10 a	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0													

DAIRY PRODUCTS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*											Alternative method : TEMPO TC					Category	Type
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2	Mean		
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g	log CFU/g		
2005	912	Tartare fromage	Cheese	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0							a	a					
2005	980	Fromage frais persil	Fresh cheese with parsley	10	34	50	38	31	420	360	/	2,62	2,56	2,59	160	190	2,20	2,28	2,24	3	b
				100	3	6	4	6							a	a					
2005	983	Fromage Sveltesse ciboulette	Fresh cheese with chives	10	16	17	28	37	180	310	/	2,26	2,49	2,37	71	83	1,85	1,92	1,89	3	b
				100	2	4	4	0							a	a					
2005	1125	Lait Ribot	Fermented milk	10	20	39	38	20	300	300	/	2,48	2,48	2,48	630	570	2,80	2,76	2,78	3	b
				100	2	5	3	5							a	a					
2005	1126	Lait Ribot	Fermented milk	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0							a	a					
2005	1127	Lait Ribot	Fermented milk	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0							a	a					
2005	1128	Crottin de chèvre	Goat milk cheese	1000	178	187	206	188	290000	210000	/	5,46	5,32	5,39	210000	300000	5,32	5,48	5,40	3	b
				10000	26	31	16	26							b	b					
2005	1129	Crottin de chèvre	Goat milk cheese	100	152	147	172	157	20000	24000	/	4,30	4,38	4,34	17000	21000	4,23	4,32	4,28	3	b
				1000	17	22	24	23							a	a					
2005	1134	Crottin de chavignol	Goat milk cheese	100	69	55	117	74	6000	9100	/	3,78	3,96	3,87	5500	11000	3,74	4,04	3,89	3	b
				1000	4	4	7	3							a	a					
2005	1135	Cantal	cow milk cheese	10	202	190	179	171	1400	1900	/	3,15	3,28	3,21	530	1000	2,72	3,00	2,86	3	b
				100	13	14	23	15							a	a					
2005	1136	Fromage de chèvre	Goat milk cheese	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0							a	a					
2005	1139	Lait Ribot	Fermented milk	10	0	1	1	2	5	15	/	0,70	1,18	0,94*	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0	e	e					a	a					
2005	1140	Lait Ribot	Fermented milk	10	1	0	1	1	5	10	/	0,70	1,00	0,85*	<10	44	<1,00	1,64	1,64	3	b
				100	0	0	0	0	e	e					a	a					
2005	907	Glace poire	Pear ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	c
				100	0	0	0	0							a	a					
2005	908	Glace cassis	Blackcurrant ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	33	<1	1,52	<1,26	3	c
				100	0	0	0	0							a	a					
2005	909	Glace fraise	Strawberry ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	c
				100	0	0	0	0							a	a					
2005	910	Glace Tiramisu	Tiramisu ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	c
				100	0	0	0	0							a	a					
2005	984	Glace fraise	Strawberry ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	3	c
				100	0	0	0	0							a	a					
2005	985	Glace cassis	Blackcurrant ice cream	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<100	0	<2,00	no result	<2,00	3	c
				100	0	0	0	0							b	b					
2005	1173	Glace à la fraise*	Strawberry ice cream	10000	>150	>150	>150	>150	>15000000	>15000000	/	>7,18	>7,18	>7,18	>490000	>490000	>5,69	>5,69	>5,69	3	c
				100000	>150	>150	>150	>150							b	b					
2005	1174	Glace vanille*	Vanilla ice cream	10000	>150	>150	>150	>150	11000000	13000000	/	7,04	7,11	7,08	>490000	>490000	>5,69	>5,69	>5,69	3	c
				100000	113	116	140	128							b	b					
2005	1218	Glace vanille*	Vanilla ice cream	10	37	49	40	46	530	530	/	2,72	2,72	2,72	4700	3000	3,67	3,48	3,57	3	c
				100	15	16	14	17							a	a					
2005	1219	Glace à la fraise*	Strawberry ice cream	100	87	103	95	94	9500	9400	/	3,98	3,97	3,98	12000	11000	4,08	4,04	4,06	3	c
				1000	10	8	11	7							a	a					
2017	6420	Riz au lait	Dairy dessert	100	69				6636		6600	3,82		3,82	7300		3,86		3,86	3	c
				1000	4									a							

DAIRY PRODUCTS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type	
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2			Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g			log CFU/g
2017	8072	Riz au lait	Dairy dessert	10	4				40		40	1,60		1,60	33		1,52		1,52	3	c
				100	0				Ne		Ne				a						
2017	8073	Panna cotta	Dairy dessert	10	34				318		320	2,51		2,51	240		2,38		2,38	3	c
				100	1										a						
2017	8074	Crème anglaise	Custard	1000	37				36364		36000	4,56		4,56	49000		4,69		4,69	3	c
				10000	3										a						

SEAFOOD																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*										Alternative method : TEMPO TC					Category	Type	
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2			Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g			log CFU/g
2005	585	Pulpe de saumon surgelée	Frozen salmon	10	58	87	22	30	690	240	/	2,84	2,38	2,61	57	73	1,76	1,86	1,81	4	a
				100	2	4	1	0							a	a					
2005	849	Filet de sabre	Fish fillet	100	76	100	74	81	8800	7500	/	3,94	3,88	3,91	5300	6000	3,72	3,78	3,75	4	a
				1000	4	14	7	4							a	a					
2005	850	Filet de Merlan	Fish fillet	10	4	12	9	11	80	100	/	1,90	2,00	1,95	86	71	1,93	1,85	1,89	4	a
				100	1	1	2	2	e	e					a	a					
2005	851	Filet Eglefin	Fish fillet	10	92	72	129	114	860	1200	/	2,93	3,08	3,01	170	160	2,23	2,20	2,22	4	a
				100	11	14	6	9							a	a					
2017	8267	Colin d'Alaska	Raw fish	100	70				7000		7000	3,85		3,85	30000		4,48		4,48	4	a
				1000	7										a						
2017	8268	Saumon	Raw salmon	10	0				<10		<10	<1,00		<1,00	21		1,32		1,32	4	a
				100	0										a						
2005	847	Saumon fumé	Smoked salmon	10	1	1	1	0	10	5	/	1,00	0,70	0,85*	<10	<10	<1	<1	<1,00	4	b
				100	0	0	0	0	e	e					a	a					
2005	848	Truite fumée	Smoked trout	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1	<1	<1,00	4	b
				100	0	0	0	0							a	a					
2005	914	Harengs fumés	Smoked herring	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1	<1	<1,00	4	b
				100	0	0	0	0							a	a					
2005	915	Maquereaux fumés	Smoked mackerel	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1	<1	<1,00	4	b
				100	0	0	0	0							a	a					
2005	996	Thon mariné	Marinated tuna	100	98	88	105	112	9700	11000	/	3,99	4,04	4,01	11000	7800	4,04	3,89	3,97	4	b
				1000	15	13	11	11							a	a					
2005	997	Lieu noir mariné	Marinated fish	100	80	114	95	84	9500	8800	/	3,98	3,94	3,96	7400	4800	3,87	3,68	3,78	4	b
				1000	4	11	4	10							a	a					
2005	998	Filet de Julienne mariné	Marinated fish	1000	21	39	35	43	30000	37000	/	4,48	4,57	4,52	13000	18000	4,11	4,26	4,18	4	b
				10000	2	3	1	2							b	b					
2017	7419	Truite fumée	Smoked trout	10	4				40		40	1,60		1,60	86		1,93		1,93	4	b
				100	0				Ne		Ne	Ne		Ne	a						
2017	8075	Truite fumée	Smoked trout	10	72				736		740	2,87		2,87	830		2,92		2,92	4	b
				100	9										a						
2017	8076	Harengs fumés	Smoked herring	10	18				227		230	2,36		2,36	150		2,18		2,18	4	b
				100	7										a						
2005	434	Brandade de morue	Cod brandade	10	3	2	3	6	25	45	/	1,40	1,65	1,53	33	110	1,52	2,04	1,78	4	c
				100	0	0	0	0							a	a					
2005	497	Thon cuit	Cooked tuna	10	2	5	5	1	35	35	/	1,54	1,54	1,54	21	32	1,32	1,51	1,41	4	c
				100	0	0	0	0	e	e					a	a					
2005	498	Thon cuit	Cooked tuna	10	0	1	0	0	5	<10	/	0,70	<1,00	<0,85	10	<10	1,00	<1,00	<1,00	4	c
				100	0	0	0	0	e						a	a					
2005	507	Beignets de poisson	Ready to reheat fish	10	30	29	25	41	300	330	/	2,48	2,52	2,50	86	160	1,93	2,20	2,07	4	c
				100	4	3	2	4							a	a					

* Analyses performed according to the COFRAC accreditation

SEAFOOD																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC					Category	Type		
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1			Rep 2	Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g			log CFU/g	log CFU/g
2005	508	Beignets de poisson	Ready to reheat fish	10	22	21	18	18	220	210	/	2,34	2,32	2,33	86	45	1,93	1,65	1,79	4	c
				100	3	3	8	2							a	a					
2005	509	Plat préparé au poisson	Ready to reheat fish	100	47	46	30	45	4600	3500	/	3,66	3,54	3,60	100	100	2,00	2,00	2,00	4	c
				1000	4	5	1	2							b	b					
2005	510	Plat préparé au poisson	Ready to reheat fish	100	>150	>150	>150	>150	110000	100000	/	5,04	5,00	5,02	110000	100000	5,04	5,00	5,02	4	c
				1000	103	124	103	102							b	b					
2005	511	Plat préparé au poisson	Ready to reheat fish	100	>150	>150	>150	>150	45000	66000	/	4,65	4,82	4,74	31000	40000	4,49	4,60	4,55	4	c
				1000	41	48	69	63							b	b					

VEGETABLES AND FRUITS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC						Category	Type	
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1	Rep 2			Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g	log CFU/g			log CFU/g
2005	506	Carottes râpées	Grated carrots	10	14	20	20	18	160	170	/	2,20	2,23	2,22	640	2200	2,81	3,34	3,07	5	a
				100	0	0	0	0													
2005	716	Carottes râpées	Grated carrots	10000	>150	>150	>150	>150	3700000	5400000	/	6,57	6,73	6,65	>4900000	>4900000	>6,69	>6,69	>6,69	5	a
				100000	46	28	64	43							c	c					
2005	717	Salade bouquet	Salad	10000	55	80	46	30	650000	350000	/	5,81	5,54	5,68	120000	370000	5,08	5,57	5,32	5	a
				100000	7	1	1	1							b	b					
2005	718	Chou rouge	Red cabbage	100000	>>150	>>150	>>150	>>150	>>15000000	>>15000000	/	>7,18	>7,18	>7,18	>4900000	>4900000	>6,69	>6,69	>6,69	5	a
															c	c					
2005	720	Chou blanc	White cabbage	100	136	141	71	132	14000	12000	/	4,15	4,08	4,11	4300	6000	3,63	3,78	3,71	5	a
				1000	/	/	24	26							a	a					
2005	854	Mélange crudités	Mixed vegetables	100000	92	131	112	124	11000000	12000000	/	7,04	7,08	7,06	>4900000	>4900000	>5,69	>5,69	>6,69	5	a
				1000000	9	7	13	10							c	c					
2005	1130	Betteraves rouges	Beet	10000	113	161	142	150	1400000	1400000	/	6,15	6,15	6,15	60000	68000	4,78	4,83	4,81	5	a
				100000	12	19	12	13							a	a					
2005	1550	Terrine aux épinards	Spinach terrine	100	66	88	63	55	7700	6000	/	3,89	3,78	3,83	7800	6000	3,89	3,78	3,84	5	a
				1000	10	6	7	8							a	a					
2005	1551	Terrine carottes oignons	Carrot onion terrine	100	114	65	68	71	9500	8100	/	3,98	3,91	3,94	7800	6800	3,89	3,83	3,86	5	a
				1000	13	17	20	19							a	a					
2005	1552	Terrine aux courgettes	Zucchini terrine	10000	25	26	22	40	250000	310000	/	5,40	5,49	5,44	340000	480000	5,53	5,68	5,61	5	a
				100000	2	2	4	3							b	b					
2005	1553	Terrine aux carottes	Carrot terrine	100	>150	>150	>150	>150	28000	23000	/	4,45	4,36	4,40	15000	17000	4,18	4,23	4,20	5	a
				1000	26	29	26	20							a	a					
2005	1658	Carottes et poivrons au gingembre	Carrot and onion with ginger	10000	>150	>150	>150	>150	2800000	3100000	/	6,45	6,49	6,47	210000	370000	5,32	5,57	5,45	5	a
				100000	28	28	30	31							b	b					
2005	1660	Terrine aux épinards	Spinach terrine	10000	70	78	83	66	750000	760000	/	5,88	5,88	5,88	370000	370000	5,57	5,57	5,57	5	a
				100000	9	8	10	9							b	b					
2005	1661	Terrine courgette carottes	Carrot zucchini terrine	10000	78	54	72	75	630000	760000	/	5,80	5,88	5,84	490000	370000	5,69	5,57	5,63	5	a
				100000	5	2	9	11							b	b					
2005	1662	Terrine aux carottes	Carrot terrine	10000	>150	>150	>150	>150	3100000	3600000	/	6,49	6,56	6,52	4900000	3000000	6,69	6,48	6,58	5	a
				100000	28	34	31	40							c	c					
2005	1663	Terrine aux carottes	Carrot terrine	100	>150	>150	>150	>150	36000	34000	/	4,56	4,53	4,54	9100	21000	3,96	4,32	4,14	5	a
				1000	31	40	35	32							a	a					
2005	1665	Terrine tomate carottes	Carrot tomato terrine	10	56	51	31	64	540	490	/	2,73	2,69	2,71	21	44	1,32	1,64	1,48	5	a
				100	5	6	4	8							a	a					
2005	422	Poivrons verts surgelés	Frozen green pepper	10	71	56	63	73	640	660	/	2,81	2,82	2,81	250	240	2,40	2,38	2,39	5	b
				100	7	7	6	4							a	a					
2005	423	Cubes de tomates surgelés	Frozen tomatoes	10000	72	73	74	64	750000	700000	/	5,88	5,85	5,86	2400	1900	3,38	3,28	3,33	5	b
				100000	14	6	6	9							a	a					
2005	748	Purée de carottes	Carrot purée	100000	>>150	>>150	>>150	>>150	>>15000000	>>15000000	/	>7,18	>7,18	>7,18	>4900000	>4900000	>6,69	>6,69	>6,69	5	b
															c	c					

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VEGETABLES AND FRUITS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC					Category	Type		
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1			Rep 2	Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g			log CFU/g	log CFU/g
2005	1131	Navets	Turnip	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<100	<100	<2,00	<2,00	<2,00	5	b
				100	0	0	0	0							b	b					
2005	1132	Petits pois surgelés	Frozen peas	100	58	66	45	54	6100	4700	/	3,79	3,67	3,73	300	160	2,48	2,20	2,34	5	b
				1000	7	3	3	2						a	a						
2005	1133	Epinards hachés surgelés	Frozen spinach	10	149	188	165	172	1400	1700	/	3,15	3,23	3,19	440	71	2,64	1,85	2,25	5	b
				100	14	14	17	17						a	a						
2011	2058	Ratatouille	Ratatouille	10	15				150		/	2,18		2,18	140		2,15		2,15	5	b
				100	1									a							
2011	2060	Carottes en lamelles cuites	Cooked sliced carrots	10	42				440		/	2,64		2,64	930		2,97		2,97	5	b
				100	6									a							
2011	2120	Ratatouille surgelée	Frozen ratatouille	10	42				420		/	2,62		2,62	400		2,60		2,60	5	b
				100	4									a							
2011	2365	Macédoine de légumes	Mixed vegetables	10	14				130		/	2,11		2,11	210		2,32		2,32	5	b
				100	0									a							
2011	2366	Macédoine de légumes	Mixed vegetables	100	>150				37000		/	4,57		4,57	12000		4,08		4,08	5	b
				1000	37				N'			N'		a							
2005	1555	Ratatouille	Ratatouille	100	50	54	67	74	5500	7200	/	3,74	3,86	3,80	370000	250000	5,57	5,40	5,48	5	b
				1000	9	8	7	10						b	b						
2005	499	Cèpes déshydratés	Dried mushrooms	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<100	<100	<2,00	<2,00	<2,00	5	c
				100	0	0	0	0						b	b						
2005	500	Bolets déshydratés	Dried mushrooms	100	>150	>150	>150	>150	96000	95000	/	4,98	4,98	4,98	170000	170000	5,23	5,23	5,23	5	c
				1000	93	98	91	98						b	b						
2005	855	Oignons déshydratés	Dried onions	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<100	<100	<2,00	<2,00	<2,00	5	c
				100	0	0	0	0						b	b						
2005	856	Echalotte poudre	Shallot powder	10	11	17	32	30	180	310	/	2,26	2,49	2,37	580	330	2,76	2,52	2,64	5	c
				100	3	8	4	2						a	a						
2005	857	Ail poudre	Garlic powder	10	3	1	1	2	20	15	/	1,30	1,18	1,24*	210	<10	2,32	<1,00	<1,66	5	c
				100	0	0	0	0						b	a						
2005	999	Poivre 5 baies	Black pepper	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	5	c
				100	0	0	0	0						a	a						
2005	1000	Cannelle	Cinnamon	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	>4900	15000	>3,69	4,18	>3,94	5	c
				100	0	0	0	0						a	a						
2005	1001	Banane sèche	Dried banana	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	5	c
				100	0	0	0	0						a	a						
2005	1667	Champignons noirs	Black mushrooms	1000	>150	>150	>150	>150	>1500000	>1500000	/	>6,18	>6,18	>6,18	37000	30000	4,57	4,48	4,52	5	c
				10000	>150	>150	>150	>150						a	a						
2017	8263	Carottes déshydratées	Dried carrots	10	6				60		60	1,78		1,78	360		2,56		2,56	5	c
				100	0									a							
2017	8264	Poireaux déshydratés	Dried leeks	10	62				645		650	2,81		2,81	49000		4,69		4,69	5	c
				100	9									a							
2017	8265	Carottes déshydratées	Dried carrots	100	30				2909		2900	3,46		3,46	2100		3,32		3,32	5	c
				1000	2									a							

PET FOODS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC					Category	Type		
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1			Rep 2	Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g			log CFU/g	log CFU/g
2005	723	Viande crue pour animaux	Raw meat for animal	10000	15	13	12	12	140000	120000	/	5,15	5,08	5,11	61000	210000	4,79	5,32	5,05	6	a
				100000	2	1	3	3	e	e					b	b					
2005	852	Viande crue pour animaux	Raw meat for animal	10000	24	25	24	32	250000	270000	/	5,40	5,43	5,41	71000	29000	4,85	4,46	4,66	6	a
				100000	1	6	2	1							b	b					
2005	913	Viande crue pour animaux	Raw meat for animal	10000	5	11	7	7	72730	63640	/	4,86	4,80	4,83	91000	37000	4,96	4,57	4,76	6	a
				100000	0	0	0	0	e	e					b	b					
2017	6421	Viande bovine pour animaux	Raw meat for animal	100	68				6909		6900	3,84		3,84	4400		3,64		3,64	6	a
				1000	8																
2017	6422	Viande bovine pour animaux	Raw meat for animal	100	26				2636		2600	3,41		3,41	1000		3,00		3,00	6	a
				1000	3																
2005	529	Saucisson pour chien	Sausage for dog	10	77	114	?	115	1000	1100	/	3,00	3,04	3,02	1100	1500	3,04	3,18	3,11	6	b
				100	13	18	10	9							a	a					
2005	721	Saucisson pour chien	Sausage for dog	10	5	0	4	4	25	40	/	1,40	1,60	1,50	10	21	1,00	1,32	1,16	6	b
				100	0	0	0	0	e	e				Ne	a	a					
2005	722	Saucisson pour chiots	Sausage for dog	10	43	52	50	49	490	520	/	2,69	2,72	2,70	330	480	2,52	2,68	2,60	6	b
				100	5	8	7	8							a	a					
2005	1122	Bouchées pour chien	Dog food	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	b
				100	0	0	0	0							a	a					
2005	1124	Saucisson volaille pour chat	Sausage for cat	1000	0	0	0	0	<1000	<1000	/	<3,00	<3,00	<3,00	<10	<10	<1,00	<1,00	<1,00	6	b
				10000	0	0	0	0							a	a					
2005	1137	Aliment pour chien	Dog food	10	225	217	213	205	1800	2000	/	3,26	3,30	3,28	3400	2900	3,53	3,46	3,50	6	b
				100	18	18	19	21							a	a					
2005	1138	Saucisson pour chien	Sausage for dog	10	37	31	29	35	340	330	/	2,53	2,52	2,52	220	300	2,34	2,48	2,41	6	b
				100	1	5	6	3							a	a					
2005	858	Croquettes chatons	Pellets for cat	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	916	Croquettes pour chat	Pellets for cat	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	917	Croquettes pour chat	Pellets for cat	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	918	Croquettes chatons poisson	Pellets for cat	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	986	Croquettes chatons	Pellets for cat	10	1	1	1	0	10	5	/	1,00	0,70	0,85*	10	<10	1,00	<1	<1,00	6	c
				100	0	0	0	0	e	e					a	a					
2005	987	Croquettes friskies	Pellets	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	988	Croquettes poulet	Pellets	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	1123	Aliment pour poissons rouges	Goldfish food	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					

* Analyses performed according to the COFRAC accreditation

PET FOODS																					
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 4832*									Alternative method : TEMPO TC					Category	Type		
				Dilution	Rep 1		Rep 2		Rep 1	Rep 2	CFU/g	Rep 1	Rep 2	Mean	Rep 1	Rep 2	Rep 1			Rep 2	Mean
					CFU/plate a	CFU/plate b	CFU/plate a	CFU/plate b	CFU/g	CFU/g		log CFU/g	log CFU/g	log CFU/g	Result	Result	log CFU/g			log CFU/g	log CFU/g
2005	1175	Croquettes au bœuf	Pellets	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	1176	Croquettes chaton	Pellets for cat	10	0	0	0	0	<10	<10	/	<1,00	<1,00	<1,00	<10	<10	<1,00	<1,00	<1,00	6	c
				100	0	0	0	0							a	a					
2005	1222	Croquettes au poulet*	Pellets	10	4	5	12	6	45	90	/	1,65	1,95	1,80	32	160	1,51	2,20	1,85	6	c
				100	1	0	1	0	e	e				Ne	a	a					
2005	1223	Croquettes*	Pellets	10000	16	24	17	25	190000	210000	/	5,28	5,32	5,30	250000	210000	5,40	5,32	5,36	6	c
				100000	0	1	3	1						b	b						
2017	8077	Croquettes pour chat (bœuf, poulet, foie)	Pellets for dog (beef, chicken, liver)	10	0				<10		<10	<1,00		<1,00	<10		<1,00		<1,00	6	c
				100	0																
2017	8078	Croquettes pour chien (bœuf)	Pellets for dog (beef)	10	3				30		30	1,48		1,48*	<10		<1,00		<1,00	6	c
				100	0																
2017	8249	Croquettes chien (bœuf/légumes)	Pellets for dog (beef/vegetables)	10	17				164		160	2,20		2,20	120		2,08		2,08	6	c
				100	1									a							
2017	8250	Croquettes chien (viandes/céréales/légumes)	Pellets for dog (meats/vegetables/cereals)	100	14				1364		1400	3,15		3,15	2400		3,38		3,38	6	c
				1000	1									a							
2017	8251	Croquettes chat (foie/bœuf/poulet/fromage)	Pellets for cat (liver/beef/chicken/cheese)	10	0				<10		<10	<1,00		<1,00	<10		<1,00		<1,00	6	c
				100	0									a							
2017	8252	Croquettes chien (poulet/légumes)	Pellets for dog (chicken/vegetables)	1000	155				151818		150000	5,18		5,18	300000		5,48		5,48	6	c
				10000	12									b							

Appendix 5 - Relative trueness study: summarized results and calculations

Category	Type	N° sample	TEMPO TC									
			Log cfu/g		Mean	Difference	Alternative method		Mean <4 CFU/plate	Difference <4 CFU/plate	Mean corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
1	a	490	1,60	1,63	1,61	0,03			#N/A		#N/A	
	a	491	2,00		#N/A			1,00	#N/A		1,50	-1,00
	a	492	9,18		#N/A			7,69	#N/A		8,44	-1,49
	a	2062	2,58	2,60	2,59	0,02			#N/A		#N/A	
	a	2063	3,48	3,57	3,52	0,09			#N/A		#N/A	
	a	2064	4,53	4,69	4,61	0,16			#N/A		#N/A	
	a	2122	4,53	4,57	4,55	0,04			#N/A		#N/A	
	a	2151	3,66	3,41	3,54	-0,25			#N/A		#N/A	
	a	2368	3,41	2,97	3,19	-0,45			#N/A		#N/A	
	b	488	3,84	3,39	3,62	-0,45			#N/A		#N/A	
	b	503	2,66	2,61	2,64	-0,05			#N/A		#N/A	
	b	2059	3,48	3,43	3,45	-0,05			#N/A		#N/A	
	b	2061	3,04	2,76	2,90	-0,28			#N/A		#N/A	
	b	2065	3,75	3,38	3,56	-0,37			#N/A		#N/A	
	b	2066	2,97	2,56	2,76	-0,42			#N/A		#N/A	
	b	2149	3,15	3,32	3,23	0,18			#N/A		#N/A	
	b	2183	4,83	4,96	4,89	0,13			#N/A		#N/A	
	b	2367	5,43	5,28	5,36	-0,15			#N/A		#N/A	
	b	1659	2,93	1,92	2,42	-1,01			#N/A		#N/A	
	b	1666	3,23	2,11	2,67	-1,11			#N/A		#N/A	
	b	1554	2,70	2,84	2,77	0,14			#N/A		#N/A	
	b	1655	1,51	1,65	1,58	0,14			#N/A		#N/A	
	b	1656	6,16	6,15	6,16	-0,01			#N/A		#N/A	
	b	1664	2,57	2,65	2,61	0,08			#N/A		#N/A	
	b	1668	7,08	5,44	6,26	-1,64			#N/A		#N/A	
	c	2121	3,97	4,04	4,00	0,07			#N/A		#N/A	
	c	2123	2,18	1,51	1,84	-0,67			#N/A		#N/A	
	c	2148	3,82	4,18	4,00	0,36						
	c	2150	3,11	2,84	2,98	-0,28						
	c	2363	2,66	2,59	2,63	-0,07						
	c	2483	4,00	4,40	4,20	0,40						
	c	1549	2,04	2,00	2,02	-0,05						
c	1556	3,72	3,75	3,73	0,04							
c	1557	4,40	4,20	4,30	-0,19							
c	1654	2,13	1,33	1,73	-0,81			#N/A		#N/A		
Average category 1												
Standard deviation of differences category 1												
2	a	425	2,32	2,02	2,17	-0,30			#N/A		#N/A	
	a	426	3,02	2,67	2,84	-0,35			#N/A		#N/A	
	a	427	4,58	4,04	4,31	-0,54			#N/A		#N/A	
	a	428	3,36	2,62	2,99	-0,74			#N/A		#N/A	
	a	496	4,18		#N/A			4,45	#N/A		4,31	0,27
	a	1913	5,04	4,69	4,87	-0,35			#N/A		#N/A	
	a	1915	4,48	4,32	4,40	-0,15			#N/A		#N/A	
	a	1916	3,11	3,20	3,16	0,09			#N/A		#N/A	
	a	1917	5,60	4,66	5,13	-0,94			#N/A		#N/A	
	a	1918	4,00	4,18	4,09	0,18			#N/A		#N/A	
	a	1919	4,95	5,04	5,00	0,09			#N/A		#N/A	
	a	2370	3,08	3,36	3,22	0,28			#N/A		#N/A	
	a	2474	5,85	5,96	5,90	0,11			#N/A		#N/A	
	b	424	2,65	2,32	2,48	-0,32			#N/A		#N/A	
	b	429	3,57	3,27	3,42	-0,30			#N/A		#N/A	
	b	501	1,54		#N/A		1,16		1,35	-0,38	#N/A	
	b	1865	2,18	2,08	2,13	-0,10			#N/A		#N/A	
	b	1866	6,08	5,18	5,63	-0,90			#N/A		#N/A	
	b	1867	5,18		#N/A			4,32	#N/A		4,75	
	b	1868	3,85	4,04	3,94	0,20			#N/A		#N/A	
	b	1869	3,34	3,08	3,21	-0,26			#N/A		#N/A	
	b	1870	3,18	3,04	3,11	-0,13			#N/A		#N/A	
	b	1871	3,26	3,08	3,17	-0,18			#N/A		#N/A	
	b	1911	3,04	2,85	2,95	-0,19			#N/A		#N/A	
	b	1912	3,08	2,89	2,98	-0,19			#N/A		#N/A	
	b	2152	2,81	2,45	2,63	-0,36			#N/A		#N/A	
	b	2153	3,60	3,74	3,67	0,14			#N/A		#N/A	
	b	2185	3,68	3,43	3,56	-0,25			#N/A		#N/A	
	b	2478	4,18	4,57	4,37	0,39			#N/A		#N/A	
	c	430	0,70		#N/A		1,00		0,85	0,30	#N/A	
	c	431	0,00		#N/A				0,00		0,00	
	c	432	0,85		#N/A				0,00		0,43	
c	433	0,70		#N/A		1,32		1,01	0,62	#N/A		
c	504	6,18		#N/A				6,69		6,44		
c	505	3,55	2,41	2,98	-1,14			#N/A		#N/A		
c	2369	1,95	2,26	2,10	0,30			#N/A		#N/A		
c	2471	3,54	3,23	3,39	-0,31			#N/A		#N/A		
c	2472	3,40	3,38	3,39	-0,02			#N/A		#N/A		
c	2473	3,88	3,83	3,86	-0,05			#N/A		#N/A		
c	2477	3,43	3,74	3,59	0,31			#N/A		#N/A		
c	2479	4,59	4,96	4,78	0,37			#N/A		#N/A		
Average category 2												
Standard deviation of differences category 2												

Category	Type	N°sample	TEMPO TC									
			Log cfu/g		Mean	Difference	Alternative method		Mean <4 CFU/plate	Difference <4 CFU/plate	Mean corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
3	a	4714	5,16		#N/A			6,69	#N/A		5,93	1,53
	a	4715	3,23	3,93	3,58	0,70			#N/A		#N/A	
	a	4716	1,15		#N/A			0,16	#N/A		0,66	-0,99
	a	4717	2,31	2,28	2,30	-0,03			#N/A		#N/A	
	a	4912	2,38	3,25	2,81	0,87			#N/A		#N/A	
	a	4913	2,00		#N/A			1,32	#N/A		1,66	-0,68
	a	4914	2,00		#N/A			0,16	#N/A		1,08	-1,84
	a	5054	3,66	3,52	3,59	-0,15			#N/A		#N/A	
	a	5055	2,65	2,46	2,55	-0,19			#N/A		#N/A	
	a	5056	1,24		#N/A		1,00		1,12	-0,24	#N/A	
	a	5100	6,18		#N/A			5,48	#N/A		5,83	-0,70
	a	5101	6,18		#N/A			5,57	#N/A		5,87	-0,61
	a	5102	6,18		#N/A			6,63	#N/A		6,41	0,45
	a	5103	3,59	3,64	3,61	0,05			#N/A		#N/A	
	a	5104	3,51	3,45	3,48	-0,06			#N/A		#N/A	
	a	5105	3,21	3,23	3,22	0,02			#N/A		#N/A	
	a	5112	2,68	2,57	2,63	-0,11			#N/A		#N/A	
	a	5113	3,78	3,79	3,78	0,01			#N/A		#N/A	
	a	5114	1,00		#N/A			1,26	#N/A		1,13	0,26
	b	489	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	502	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	911	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	912	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	980	2,59	2,24	2,42	-0,35			#N/A		#N/A	
	b	983	2,37	1,89	2,13	-0,49			#N/A		#N/A	
	b	1125	2,48	2,78	2,63	0,30			#N/A		#N/A	
	b	1126	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	1127	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	1128	5,39	5,40	5,40	0,01			#N/A		#N/A	
	b	1129	4,34	4,28	4,31	-0,06			#N/A		#N/A	
	b	1134	3,87	3,89	3,88	0,02			#N/A		#N/A	
	b	1135	3,21	2,86	3,04	-0,35			#N/A		#N/A	
	b	1136	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	1139	0,94		#N/A			0,00	#N/A		0,47	-0,94
	b	1140	0,85		#N/A	0,79	1,64	0,00	1,25	0,79	0,43	-0,85
	c	907	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	908	0,00		#N/A			0,26	#N/A		0,13	0,26
	c	909	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	910	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	984	0,00		#N/A			0,00	#N/A		0,00	0,00
c	985	0,00		#N/A			1,00	#N/A		0,50	1,00	
c	1173	8,18		#N/A			6,69	#N/A		7,44	-1,49	
c	1174	7,08		#N/A			6,69	#N/A		6,88	-0,39	
c	1218	2,72	3,57	3,15	0,85			#N/A		#N/A		
c	1219	3,98	4,06	4,02	0,08			#N/A		#N/A		
c	6420	3,82	3,86	3,84	0,04			#N/A		#N/A		
c	8072	1,60	1,52	1,56	-0,08			#N/A		#N/A		
c	8073	2,51	2,38	2,44	-0,12			#N/A		#N/A		
c	8074	4,56	4,69	4,62	0,13			#N/A		#N/A		
Average category 3						0,08						
Standard deviation of differences category 3						0,37						
4	a	585	2,61	1,81	2,21	-0,80			#N/A		#N/A	
	a	849	3,91	3,75	3,83	-0,16			#N/A		#N/A	
	a	850	1,95	1,89	1,92	-0,06			#N/A		#N/A	
	a	851	3,01	2,22	2,61	-0,79			#N/A		#N/A	
	a	8267	3,85	4,48	4,16	0,63			#N/A		#N/A	
	a	8268	0,00		#N/A			1,32	#N/A		0,66	1,32
	b	847	0,85		#N/A			0,00	#N/A		0,43	-0,85
	b	848	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	914	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	915	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	996	4,01	3,97	3,99	-0,05			#N/A		#N/A	
	b	997	3,96	3,78	3,87	-0,19			#N/A		#N/A	
	b	998	4,52	4,18	4,35	-0,34			#N/A		#N/A	
	b	7419	1,60	1,93	1,77	0,33			#N/A		#N/A	
	b	8075	2,87	2,92	2,89	0,05			#N/A		#N/A	
	b	8076	2,36	2,18	2,27	-0,19			#N/A		#N/A	
	c	434	1,53	1,78	1,65	0,25			#N/A		#N/A	
	c	497	1,54	1,41	1,48	-0,13			#N/A		#N/A	
	c	498	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	507	2,50	2,07	2,28	-0,43			#N/A		#N/A	
c	508	2,33	1,79	2,06	-0,54			#N/A		#N/A		
c	509	3,60	2,00	2,80	-1,60			#N/A		#N/A		
c	510	5,02	5,02	5,02	0,00			#N/A		#N/A		
c	511	4,74	4,55	4,64	-0,19			#N/A		#N/A		
Average category 4						-0,23						
Standard deviation of differences category 4						0,50						

Category	Type	N°sample	TEMPO TC									
			Log cfu/g		Mean	Difference	Alternative method		Mean <4 CFU/plate	Difference <4 CFU/plate	Mean corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
5	a	506	2,22	3,07	2,65	0,86			#N/A		#N/A	
	a	716	6,65		#N/A			7,69	#N/A		7,17	1,04
	a	717	5,68	5,32	5,50	-0,35			#N/A		#N/A	
	a	718	8,18		#N/A			7,69	#N/A		7,94	-0,49
	a	720	4,11	3,71	3,91	-0,41			#N/A		#N/A	
	a	854	7,06		#N/A			7,69	#N/A		7,38	0,63
	a	1130	6,15	4,81	5,48	-1,34			#N/A		#N/A	
	a	1550	3,83	3,84	3,83	0,00			#N/A		#N/A	
	a	1551	3,94	3,86	3,90	-0,08			#N/A		#N/A	
	a	1552	5,44	5,61	5,53	0,16			#N/A		#N/A	
	a	1553	4,40	4,20	4,30	-0,20			#N/A		#N/A	
	a	1658	6,47	5,45	5,96	-1,02			#N/A		#N/A	
	a	1660	5,88	5,57	5,72	-0,31			#N/A		#N/A	
	a	1661	5,84	5,63	5,73	-0,21			#N/A		#N/A	
	a	1662	6,52	6,58	6,55	0,06			#N/A		#N/A	
	a	1663	4,54	4,14	4,34	-0,40			#N/A		#N/A	
	a	1665	2,71	1,48	2,10	-1,23			#N/A		#N/A	
	b	422	2,81	2,39	2,60	-0,42			#N/A		#N/A	
	b	423	5,86	3,33	4,59	-2,53			#N/A		#N/A	
	b	748	8,18		#N/A			7,69	#N/A		7,94	-0,49
	b	1131	0,00		#N/A			1,00	#N/A		0,50	1,00
	b	1132	3,73	2,34	3,03	-1,39			#N/A		#N/A	
	b	1133	3,19	2,25	2,72	-0,94			#N/A		#N/A	
	b	2058	2,18	2,15	2,16	-0,03			#N/A		#N/A	
	b	2060	2,64	2,97	2,81	0,33			#N/A		#N/A	
	b	2120	2,62	2,60	2,61	-0,02			#N/A		#N/A	
	b	2365	2,11	2,32	2,22	0,21			#N/A		#N/A	
	b	2366	4,57	4,08	4,32	-0,49			#N/A		#N/A	
	b	1555	3,80	5,48	4,64	1,68			#N/A		#N/A	
	c	499	0,00		#N/A			1,00	#N/A		0,50	1,00
c	500	4,98	5,23	5,11	0,25			#N/A		#N/A		
c	855	0,00		#N/A			1,00	#N/A		0,50	1,00	
c	856	2,37	2,64	2,51	0,27			#N/A		#N/A		
c	857	1,24		#N/A			0,66	#N/A		0,95	-0,58	
c	999	0,00		#N/A			0,00	#N/A		0,00	0,00	
c	1000	0,00		#N/A			4,94	#N/A		2,47	4,94	
c	1001	0,00		#N/A			0,00	#N/A		0,00	0,00	
c	1667	7,18		#N/A			4,52	#N/A		5,85	-2,66	
c	8263	1,78	2,56	2,17	0,78							
c	8264	2,81	4,69	3,75	1,88							
c	8265	3,46	3,32	3,39	-0,14							
Average category 5												
Standard deviation of differences category 5												
6	a	723	5,11	5,05	5,08	-0,06			#N/A		#N/A	
	a	852	5,41	4,66	5,04	-0,76			#N/A		#N/A	
	a	913	4,83	4,76	4,80	-0,07			#N/A		#N/A	
	a	6421	3,84	3,64	3,74	-0,20			#N/A		#N/A	
	a	6422	3,41	3,00	3,21	-0,41			#N/A		#N/A	
	b	529	3,02	3,11	3,06	0,09			#N/A		#N/A	
	b	721	1,50	1,16	1,33	-0,34			#N/A		#N/A	
	b	722	2,70	2,60	2,65	-0,10			#N/A		#N/A	
	b	1122	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	1124	2,00		#N/A			0,00	#N/A		1,00	-2,00
	b	1137	3,28	3,50	3,39	0,22			#N/A		#N/A	
	b	1138	2,52	2,41	2,47	-0,12			#N/A		#N/A	
	c	858	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	916	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	917	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	918	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	986	0,85		#N/A			0,00	#N/A		0,43	-0,85
	c	987	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	988	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	1123	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	1175	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	1176	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	1222	1,80	1,85	1,83	0,05			#N/A		#N/A	
	c	1223	5,30	5,36	5,33	0,06			#N/A		#N/A	
	c	8077	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	8078	1,48		#N/A			0,00	#N/A		0,74	-1,48
	c	8249	2,20	2,08	2,14	-0,12			#N/A		#N/A	
c	8250	3,15	3,38	3,26	0,23			#N/A		#N/A		
c	8251	0,00		#N/A			0,00	#N/A		0,00	0,00	
c	8252	5,18	5,48	5,33	0,30			#N/A		#N/A		
Average category 6												
Standard deviation of differences category 6												
Average all categories												
Standard deviation of differences all categories												

n all 151
 $\beta=95\%$ $T(0,05;70)=$ 1,975905298
 1,051800155 Upper limit Lower limit Linear
 Average (minimal value) 0,00 0,92 -1,19 -0,14
 Average (maximale value) 10,00 0,92 -1,19 -0,14

Appendix 6 - Accuracy profile study: raw data

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832 [♦]				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Deli salad (piémontaise) Batch 1 Aerobic mesophilic flora: 2.1.10 ⁴ CFU/g	Serratia liquefaciens 26	1	6482	10	32	310	2,49	710	440		710	2,85
				100	2							
			6483	10	40	380	2,58	420	330		420	2,62
				100	2							
			6484	10	50	530	2,72	440	1400		440	2,64
				100	8							
		6485	10	42	400	2,60	710	210		710	2,85	
			100	2								
		6486	10	44	440	2,64	440	100		440	2,64	
			100	4								
		2	6487	100	57	5600	3,75	3700	6400		3700	3,57
				1000	5							
			6488	100	55	5400	3,73	11000	5600		11000	4,04
				1000	4							
			6489	100	60	6600	3,82	11000	9300		11000	4,04
				1000	13							
		6490	100	82	8100	3,91	17000	6300		17000	4,23	
			1000	7								
		6491	100	40	4000	3,60	17000	5300		17000	4,23	
			1000	4								
3	6492	1000	114	110000	5,04		150000	120000	150000	5,18		
		10000	12									
	6493	1000	130	130000	5,11		210000	100000	210000	5,32		
		10000	11									
	6494	10000	17	170000	5,23		300000	170000	300000	5,48		
		100000	2									
6495	1000	120	110000	5,04		300000	190000	300000	5,48			
	10000	6										
6496	1000	109	120000	5,08		91000	120000	91000	4,96			
	10000	20										
Deli salad (piémontaise) Batch 2 Aerobic mesophilic flora: 3.8.10 ³ CFU/g	Serratia liquefaciens 26	1	6497	10	51	480	2,68	570	860		570	2,76
				100	2							
			6498	10	38	370	2,57	300	570		300	2,48
				100	3							
			6499	10	42	420	2,62	280	330		280	2,45
				100	4							
		6500	10	44	420	2,62	480	690		480	2,68	
			100	2								
		6501	10	39	360	2,56	480	210		480	2,68	
			100	1								
		2	6502	100	81	8000	3,90	12000	12000		12000	4,08
				1000	7							
			6503	100	63	6500	3,81	6000	8100		6000	3,78
				1000	8							
			6504	100	48	4700	3,67	11000	8100		11000	4,04
				1000	4							
		6505	100	72	6700	3,83	8200	7100		8200	3,91	
			1000	2								
		6506	100	50	5000	3,70	6800	8100		6800	3,83	
			1000	5								
3	6507	10000	10	120000	5,08		250000	170000	250000	5,40		
		100000	3									
	6508	1000	123	120000	5,08		120000	120000	120000	5,08		
		10000	12									
	6509	1000	137	140000	5,15		210000	290000	210000	5,32		
		10000	17									
6510	1000	137	140000	5,15		300000	250000	300000	5,48			
	10000	15										
6511	1000	111	120000	5,08		250000	200000	250000	5,40			
	10000	21										

♦ Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832*				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Ground beef Batch 1 Aerobic mesophilic flora: 1.6.10 ³ CFU/g	Klebsiella oxytoca 42	1	7468	10	19	190	2,28	160	210		160	2,20
				100	2							
			7469	10	28	280	2,45	280	330		280	2,45
				100	3							
			7470	10	27	270	2,43	260	330		260	2,41
				100	3							
		7471	10	21	210	2,32	160	730		160	2,20	
			100	2								
		7472	10	30	290	2,46	260	100		260	2,41	
			100	2								
		2	7473	100	34	3600	3,56	5000	5300		5000	3,70
				1000	6							
			7474	100	44	4400	3,64	3700	8300		3700	3,57
				1000	4							
			7475	100	42	4100	3,61	4000	4400		4000	3,60
				1000	3							
		7476	100	46	4500	3,65	5300	8300		5300	3,72	
			1000	3								
		3	7477	100	48	4800	3,68	5300	8300		5300	3,72
				1000	5							
			7478	1000	77	75000	4,88		120000	110000	120000	5,08
				10000	6							
			7479	1000	73	73000	4,86		150000	110000	150000	5,18
				10000	7							
7480	1000	64	70000	4,85		120000	73000	120000	5,08			
	10000	13										
7481	1000	77	78000	4,89		68000	110000	68000	4,83			
	10000	9										
7482	1000	78	79000	4,90		250000	130000	250000	5,40			
	10000	9										
Ground beef Batch 2 Aerobic mesophilic flora: 7.1.10 ⁴ CFU/g	Klebsiella oxytoca 42	1	7483	10	21	200	2,30	300	450		300	2,48
				100	1							
			7484	10	12	130	2,11	220	320		220	2,34
				100	2							
			7485	10	29	290	2,46	160	590		160	2,20
				100	3							
		7486	10	11	120	2,08	260	830		260	2,41	
			100	2								
		7487	10	21	210	2,32	310	330		310	2,49	
			100	2								
		2	7488	100	20	2200	3,34	6700	10000		6700	3,83
				1000	4							
			7489	100	37	3500	3,54	4000	3600		4000	3,60
				1000	2							
			7490	100	43	4200	3,62	5000	4600		5000	3,70
				1000	3							
		7491	100	30	3100	3,49	6000	6200		6000	3,78	
			1000	4								
		3	7492	100	38	3700	3,57	4100	3300		4100	3,61
				1000	3							
			7493	1000	66	66000	4,82		350000	130000	350000	5,54
				10000	7							
			7494	1000	73	70000	4,85		110000	120000	110000	5,04
				10000	4							
7495	1000	61	61000	4,79		68000	160000	68000	4,83			
	10000	6										
7496	1000	80	78000	4,89		91000	140000	91000	4,96			
	10000	6										
7497	1000	71	74000	4,87		210000	110000	210000	5,32			
	10000	10										

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832*				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Dairy dessert Batch 1 Aerobic mesophilic flora: 10 CFU/g	Enterobacter agglomerans 74	1	6641	10	32	330	2,52	210	730		210	2,32
				100	4							
			6642	10	37	380	2,58	430	330		430	2,63
				100	5							
			6643	10	23	240	2,38	280	330		280	2,45
				100	3							
		6644	10	39	370	2,57	390	450		390	2,59	
			100	2								
		6645	10	35	360	2,56	300	890		300	2,48	
			100	4								
		2	6646	100	49	5400	3,73	5500	5100		5500	3,74
				1000	10							
			6647	100	47	5100	3,71	11000	9300		11000	4,04
				1000	9							
			6648	100	42	4500	3,65	7800	11000		7800	3,89
				1000	7							
		6649	100	48	5300	3,72	9100	7300		9100	3,96	
			1000	10								
		3	6650	100	63	6800	3,83	6800	11000		6800	3,83
				1000	12							
			6651	1000	106	110000	5,04		110000	140000	110000	5,04
				10000	16							
			6652	1000	101	100000	5,00		120000	120000	120000	5,08
				10000	11							
		6653	1000	103	110000	5,04		170000	150000	170000	5,23	
			10000	16								
		6654	1000	103	100000	5,00		150000	210000	150000	5,18	
10000	7											
6655	1000	119	120000	5,08		250000	95000	250000	5,40			
	10000	17										
Dairy dessert Batch 2 Aerobic mesophilic flora: 10 CFU/g	Enterobacter agglomerans 74	1	6656	10	14	150	2,18	390	590		390	2,59
				100	2							
			6657	10	35	350	2,54	330	590		330	2,52
				100	3							
			6658	10	45	460	2,66	360	210		360	2,56
				100	6							
		6659	10	29	310	2,49	390	450		390	2,59	
			100	5								
		6660	10	44	470	2,67	390	210		390	2,59	
			100	8								
		2	6661	100	61	6000	3,78	6000	8300		6000	3,78
				1000	5							
			6662	100	60	5900	3,77	7400	9300		7400	3,87
				1000	5							
			6663	100	65	6200	3,79	4100	6400		4100	3,61
				1000	3							
		6664	100	62	6100	3,79	4000	5000		4000	3,60	
			1000	5								
		6665	100	65	6800	3,83	11000	4700		11000	4,04	
			1000	10								
		3	6666	1000	126	130000	5,11		170000	95000	170000	5,23
				10000	12							
			6667	1000	108	110000	5,04		150000	140000	150000	5,18
				10000	9							
			6668	1000	103	110000	5,04		250000	130000	250000	5,40
				10000	19							
		6669	1000	118	120000	5,08		170000	110000	170000	5,23	
10000	17											
6670	10000	10	100000	5,00		300000	130000	300000	5,48			
	100000	1										

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832*				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Raw fish Batch 1 Aerobic mesophilic flora: 1,4.10 ³ CFU/g	Enterobacter cloacae Ad230	1	6817	10	32	310	2,49	440	100		440	2,64
				100	2							
			6818	10	38	370	2,57	330	100		330	2,52
				100	3							
			6819	10	26	270	2,43	230	310		230	2,36
		100		4								
		6820	10	28	270	2,43	280	100		280	2,45	
			100	2								
		6821	10	24	240	2,38	360	<100		360	2,56	
			100	2								
		2	6822	100	29	3500	3,54	4000	4000		4000	3,60
				1000	9							
			6823	100	41	4100	3,61	3700	4800		3700	3,57
				1000	4							
			6824	100	59	5600	3,75	7800	3600		7800	3,89
		1000		3								
		6825	100	47	4700	3,67	3700	8100		3700	3,57	
		3	6826	100	37	3600	3,56	6000	5200		6000	3,78
				1000	3							
			6827	1000	73	78000	4,89		110000	83000	110000	5,04
				10000	13							
6828	1000		112	120000	5,08		150000	83000	150000	5,18		
	10000	21										
6829	1000	61	61000	4,79		91000	93000	91000	4,96			
	10000	6										
6830	1000	104	100000	5,00		91000	64000	91000	4,96			
6831	1000	74	75000	4,88		74000	120000	74000	4,87			
	10000	9										
Raw fish Batch 2 Aerobic mesophilic flora: 2,4.10 ³ CFU/g	Enterobacter cloacae Ad230	1	6832	10	30	280	2,45	330	590		330	2,52
				100	1							
			6833	10	27	260	2,41	440	330		440	2,64
				100	1							
			6834	10	21	200	2,30	330	450		330	2,52
		100		1								
		6835	10	25	260	2,41	360	320		360	2,56	
			100	3								
		6836	10	28	280	2,45	260	210		260	2,41	
			100	3								
		2	6837	100	39	3700	3,57	6000	5800		6000	3,78
				1000	2							
			6838	100	43	4200	3,62	2400	6300		2400	3,38
				1000	3							
			6839	100	44	4500	3,65	6800	4600		6800	3,83
		1000		5								
		6840	100	44	4200	3,62	9100	3300		9100	3,96	
		6841	100	49	4700	3,67	6800	4000		6800	3,83	
			1000	3								
		3	6842	1000	80	82000	4,91		60000	95000	60000	4,78
				10000	10							
6843	1000		93	93000	4,97		250000	93000	250000	5,40		
	10000		9									
6844	1000		74	75000	4,88		91000	120000	91000	4,96		
	10000	8										
6845	1000	100	96000	4,98		91000	170000	91000	4,96			
	10000	6										
6846	1000	82	84000	4,92		210000	110000	210000	5,32			

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832*				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Grated carrots Batch 1 Aerobic mesophilic flora: 8,0.10 ⁴ CFU/g	<i>Escherichia coli</i> 19	1	6536	10	38	360	2,56	350	320		350	2,54
				100	1							
			6537	10	21	220	2,34	300	330		300	2,48
				100	3							
			6538	10	33	300	2,48	280	210		280	2,45
				100	0							
		6539	10	45	440	2,64	540	210		540	2,73	
			100	3								
		6540	10	29	290	2,46	260	450		260	2,41	
			100	3								
		2	6541	100	46	4600	3,66	6700	7600		6700	3,83
				1000	5							
			6542	100	48	4600	3,66	1500	5600		1500	3,18
				1000	3							
			6543	100	41	4500	3,65	error 19 x3	2600		2600	3,41
				1000	9							
		6544	100	55	5500	3,74	1300	9000		1300	3,11	
			1000	5								
		6545	100	53	5400	3,73	error 19 x3	13000		13000	4,11	
			1000	6								
		3	6546	1000	71	72000	4,86	error 19 x3	130000		130000	5,11
				10000	8							
			6547	1000	54	60000	4,78	66000	57000		66000	4,82
				10000	12							
6548	1000		67	70000	4,85	error 19 8600	67000		67000	4,83		
	10000		10									
6549	1000	87	86000	4,93	50000	85000		50000	4,70			
	10000	8										
6550	1000	84	82000	4,91	90000	180000		90000	4,95			
	10000	6										
Grated carrots Batch 2 Aerobic mesophilic flora: 800 CFU/g	<i>Escherichia coli</i> 19	1	6551	10	41	430	2,63	730	860		730	2,86
				100	6							
			6552	10	34	360	2,56	270	450		270	2,43
				100	5							
			6553	10	29	270	2,43	360	210		360	2,56
				100	1							
		6554	10	25	260	2,41	280	330		280	2,45	
			100	4								
		6555	10	44	470	2,67	220	450		220	2,34	
			100	8								
		2	6556	100	39	4100	3,61	error 19 x3	5700		5700	3,76
				1000	6							
			6557	100	41	4300	3,63	11000	4600		11000	4,04
				1000	6							
			6558	100	47	4600	3,66	3900	3600		3900	3,59
				1000	4							
		6559	100	39	3700	3,57	5500	7000		5500	3,74	
			1000	2								
		6560	100	57	5800	3,76	error 19 x3	6800		6800	3,83	
			1000	7								
		3	6561	1000	86	86000	4,93	100000	65000		100000	5,00
				10000	9							
			6562	1000	75	74000	4,87	210000	71000		210000	5,32
				10000	6							
6563	1000		80	81000	4,91	56000	95000		56000	4,75		
	10000		9									
6564	1000	51	50000	4,70	error 19 x3	140000		140000	5,15			
	10000	4										
6565	1000	91	91000	4,96	error 19 x3	190000		190000	5,28			
	10000	9										

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 4832*				Alternative method: TEMPO TC				
				Dilution	cfu/plate	cfu/g	log cfu/g	Dilution 1/40	Dilution 1/400	Dilution 1/4000	CFU/g	log cfu/g
Pâté for dog Batch 1 Aerobic mesophilic flora: <10 CFU/g	Citrobacter freundii 35	1	7733	10	44	430	2,63	480	730		480	2,68
				100	3							
			7734	10	43	440	2,64	710	710		710	2,85
				100	5							
			7735	10	35	400	2,60	480	960		480	2,68
		100		9								
		7736	10	51	480	2,68	510	1000		510	2,71	
			100	2								
		7737	10	42	420	2,62	420	210		420	2,62	
			100	4								
		7738	100	53	5000	3,70	6000	11000		6000	3,78	
			1000	2								
		7739	100	63	6300	3,80	9100	5800		9100	3,96	
			1000	6								
		7740	100	60	6000	3,78	12000	8300		12000	4,08	
			1000	6								
		7741	100	68	6700	3,83	6800	5700		6800	3,83	
			1000	6								
		7742	100	66	6600	3,82	7800	9300		7800	3,89	
			1000	7								
		7743	1000	111	120000	5,08		150000	230000	150000	5,18	
			10000	21								
		7744	1000	106	110000	5,04		250000	170000	250000	5,40	
			10000	10								
		7745	1000	115	120000	5,08		250000	150000	250000	5,40	
			10000	15								
		7746	1000	119	120000	5,08		120000	200000	120000	5,08	
10000	11											
7747	1000	123	120000	5,08		170000	180000	170000	5,23			
	10000	11										
Pâté for dog Batch 2 Aerobic mesophilic flora: <10 CFU/g	Citrobacter freundii 35	1	7748	10	51	500	2,70	570	1000		570	2,76
				100	4							
			7749	10	39	420	2,62	460	710		460	2,66
				100	7							
			7750	10	45	460	2,66	460	330		460	2,66
		100		5								
		7751	10	44	410	2,61	450	210		450	2,65	
			100	1								
		7752	10	50	500	2,70	630	330		630	2,80	
			100	5								
		7753	100	48	4700	3,67	11000	11000		11000	4,04	
			1000	4								
		7754	100	62	5800	3,76	7800	13000		7800	3,89	
			1000	2								
		7755	100	48	4700	3,67	4500	3300		4500	3,65	
			1000	4								
		7756	100	53	5400	3,73	7800	7300		7800	3,89	
			1000	6								
		7757	100	64	6500	3,81	9100	7100		9100	3,96	
			1000	7								
		7758	1000	124	120000	5,08		210000	120000	210000	5,32	
			10000	12								
		7759	1000	119	120000	5,08		150000	210000	150000	5,18	
			10000	9								
		7760	1000	128	120000	5,08		370000	120000	370000	5,57	
			10000	6								
		7761	1000	110	110000	5,04		210000	170000	210000	5,32	
10000	14											
7762	1000	128	130000	5,11		210000	170000	210000	5,32			
	10000	16										

* Analyses performed according to the COFRAC accreditation

Appendix 7 - Accuracy profile study: summarized results

(Food) Category 1		RTE										
(Food) Type 1		Piemontaise										
			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
6482-6486	Piemontaise	1	310	380	530	400	440	710	420	440	710	440
6497-6501	Piemontaise	1	480	370	420	420	360	570	300	280	480	480
6487-6491	Piemontaise	2	5600	5400	6600	8100	4000	6400	5600	9300	6300	5300
6502-6506	Piemontaise	2	8000	6500	4700	6700	5000	12000	8100	8100	7100	8100
6492-6496	Piemontaise	3	110000	130000	170000	110000	120000	150000	210000	300000	300000	91000
6507-6511	Piemontaise	3	120000	120000	140000	140000	120000	250000	120000	210000	300000	250000

(Food) Category 2		Meat product										
(Food) Type 2		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
7468-7472	Ground beef	1	190	280	270	210	290	160	280	260	160	260
7483-7487	Ground beef	1	200	130	290	120	210	300	220	160	260	310
7473-7477	Ground beef	2	3600	4400	4100	4500	4800	5000	3700	4000	5300	5300
7488-7492	Ground beef	2	2200	3500	4200	3100	3700	6700	4000	5000	6000	4100
7478-7482	Ground beef	3	75000	73000	70000	78000	79000	120000	150000	120000	68000	250000
7493-7497	Ground beef	3	66000	70000	61000	78000	74000	350000	110000	68000	91000	210000

(Food) Category 3		Dairy										
(Food) Type 3		Dairy dessert										
			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
6641-6645	Dairy dessert	1	330	380	240	370	360	210	430	280	390	300
6656-6660	Dairy dessert	1	150	350	460	310	470	390	330	360	390	390
6646-6650	Dairy dessert	2	5400	5100	4500	5300	6800	5500	11000	7800	9100	6800
6661-6665	Dairy dessert	2	6000	5900	6200	6100	6800	6000	7400	4100	4000	11000
6651-6655	Dairy dessert	3	110000	100000	110000	100000	120000	110000	120000	170000	150000	250000
6666-6670	Dairy dessert	3	130000	110000	110000	120000	100000	170000	150000	250000	170000	300000

(Food) Category 4		Seafood										
(Food) Type 4		Raw fish										
			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
6817-6821	Raw fish	1	310	370	270	270	240	440	330	230	280	360
6832-6836	Raw fish	1	280	260	200	260	280	330	440	330	360	260
6822-6826	Raw fish	2	3500	4100	5600	4700	3600	4000	4800	3600	8100	5200
6837-6841	Raw fish	2	3700	4200	4500	4200	4700	5800	6300	4600	3300	4000
6827-6831	Raw fish	3	78000	120000	61000	100000	75000	110000	150000	91000	91000	74000
6842-6846	Raw fish	3	82000	93000	75000	96000	84000	60000	250000	91000	91000	210000

(Food) Category 5		Vegetables										
(Food) Type 5		Grated carrots										
			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
6536-6640	Grated carrots	1	360	220	300	440	290	350	300	280	540	260
6551-6555	Grated carrots	1	430	360	270	260	470	730	270	360	280	220
6541-6545	Grated carrots	2	4600	4600	4500	5500	5400	7600	5600	2600	9000	13000
6556-6560	Grated carrots	2	4100	4300	4600	3700	5800	5700	4600	3600	7000	6800
6546-6550	Grated carrots	3	72000	60000	70000	86000	82000	130000	57000	67000	85000	180000
6561-6565	Grated carrots	3	86000	74000	81000	50000	91000	65000	71000	95000	140000	190000

(Food) Category 6		Pet food										
(Food) Type 6		Pâté for dog										
			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
7733-7737	Pâté for dog	1	430	440	400	480	420	480	710	480	510	420
7748-7752	Pâté for dog	1	500	420	460	410	500	570	460	460	450	630
7738-7742	Pâté for dog	2	5000	6300	6000	6700	6600	6000	9100	12000	6800	7800
7753-7757	Pâté for dog	2	4700	5800	4700	5400	6500	11000	7800	4500	7800	9100
7743-7747	Pâté for dog	3	120000	110000	120000	120000	120000	150000	250000	250000	120000	170000
7758-7762	Pâté for dog	3	120000	120000	120000	110000	130000	210000	150000	370000	210000	210000

Appendix 8 – Quantification limits (LOQ): raw data

Sample N°	Matrix	Alternative method: Tempo TC									
		Observed value	Value for calculation	Yi	\bar{y}	So	LOQ				
6526	Daily salad (Piemontaise)	<10	10	1	1	0	0				
6527		<10	10	1							
6528		<10	10	1							
6529		<10	10	1							
6530		<10	10	1							
6531		<10	10	1							
6532		<10	10	1							
6533		<10	10	1							
6534		<10	10	1							
6535		<10	10	1							
7498		Ground beef	<10	10				1	1	0	0
7499			<10	10				1			
7500	<10		10	1							
7501	<10		10	1							
7502	<10		10	1							
7503	<10		10	1							
7504	<10		10	1							
7505	<10		10	1							
7506	<10		10	1							
7507	<10		10	1							
6671	Dairy dessert	<10	10	1	1	0	0				
6672		<10	10	1							
6673		<10	10	1							
6674		<10	10	1							
6675		<10	10	1							
6676		<10	10	1							
6677		<10	10	1							
6678		<10	10	1							
6679		<10	10	1							
6680		<10	10	1							
6847	Raw fish	<10	10	1	1	0	0				
6848		<10	10	1							
6849		<10	10	1							
6850		<10	10	1							
6851		<10	10	1							
6852		<10	10	1							
6853		<10	10	1							
6854		<10	10	1							
6855		<10	10	1							
6856		<10	10	1							
6566	Grated carrots	<10	10	1	1	0	0				
6567		<10	10	1							
6568		<10	10	1							
6569		<10	10	1							
6570		<10	10	1							
6571		<10	10	1							
6572		<10	10	1							
6573		<10	10	1							
6574		<10	10	1							
6575		<10	10	1							
7763	Pâté for dog	<10	10	1	1	0	0				
7764		<10	10	1							
7765		<10	10	1							
7766		<10	10	1							
7767		<10	10	1							
7768		<10	10	1							
7769		<10	10	1							
7770		<10	10	1							
7771		<10	10	1							
7772		<10	10	1							

Appendix 9 – Inclusivity and exclusivity

INCLUSIVITY									
N°	Strain		Reference	Origin	PCA	ISO 4832	TEMPO TC	BLBVB	
Initial validation study	1	<i>Citrobacter</i>	<i>freundii</i>	35	Pork meat	35/15	2/36	34/31	/
	2	<i>Citrobacter</i>	<i>diversus</i>	38	Food	41/32	45/53	43/17	/
	3	<i>Citrobacter</i>	<i>freundii</i>	59	Food	11/20	23/22	31/15	/
	4	<i>Citrobacter</i>	<i>freundii</i>	CIP 5732	/	36/19	38/38	48/44	/
	5	<i>Citrobacter</i>	<i>diversus</i>	CIP 8294	/	24/33	23/25	24/11	/
	6	<i>Enterobacter</i>	<i>sakazakii</i>	D7	Poultry meat	44/53	79/72	150/170	/
	7	<i>Enterobacter</i>	<i>cloacae</i>	10	Raw milk	22/14	16/25	17/95	/
	8	<i>Enterobacter</i>	<i>agglomerans</i>	11	Cheese	29/42	38/41	78/55	/
	9	<i>Enterobacter</i>	<i>sakazakii</i>	L22	Milk	26/35	30/32	45/91	/
	10	<i>Enterobacter</i>	<i>cloacae</i>	58	Food	63/58	79/65	10/20	/
	11	<i>Enterobacter</i>	<i>agglomerans</i>	74	Cheese	15/10	9/12	18/20	/
	12	<i>Enterobacter</i>	<i>sakazakii</i>	90	Pastry	49/65	66/62	<1	-
	13	<i>Enterobacter</i>	<i>cloacae</i>	Fb2	Food	20/9	15/17	19/27	/
	14	<i>Enterobacter</i>	<i>cloacae</i>	Fb3	Food	21/15	34/18	13/14	/
	15	<i>Enterobacter</i>	<i>aerogenes</i>	CIP 6086	/	23/16	19/23	5	/
	16	<i>Enterobacter</i>	<i>aerogenes</i>	CIP 103659	/	58/57	61/59	57/83	/
	17	<i>Escherichia</i>	<i>coli</i>	1	Sausage	21/33	38/41	74/37	/
	18	<i>Escherichia</i>	<i>coli</i>	12	Turkey meat	68/51	69/78	120/91	/
	19	<i>Escherichia</i>	<i>coli</i>	14	Raw milk	36/38	45/35	74/74	/
	20	<i>Escherichia</i>	<i>coli</i>	19	Grated carrots	12/15	14/7	10/10	/
	21	<i>Escherichia</i>	<i>vulneris</i>	151	Raw milk	24/30	28/25	37/29	/
	22	<i>Escherichia</i>	<i>hermanii</i>	395	Meat	41/41	36/47	<1	-
	23	<i>Escherichia</i>	<i>coli</i> O157:H7	ATCC 43888	/	67/53	47/64	47/53	/
	24	<i>Hafnia</i>	<i>alvei</i>	40	Water	3/7	4/8	<1	-
	25	<i>Hafnia</i>	<i>alvei</i>	167	Sausage	92/108	93/86	<1	-
	26	<i>Klebsiella</i>	<i>pneumoniae</i>	28	Food	27/14	46/29	45/68	/
	27	<i>Klebsiella</i>	<i>oxytoca</i>	42	Food	8/9	15/13	23/12	/
	28	<i>Klebsiella</i>	<i>pneumoniae</i>	92	Pastry	27/33	34/43	10/11	/
	29	<i>Klebsiella</i>	<i>oxytoca</i>	CIP 7932	/	24/15	14/14	24/27	/
	30	<i>Serratia</i>	<i>liquefaciens</i>	26	Egg product	26/15	30/18	24/37	/

INCLUSIVITY									
N°	Strain		Reference	Origin	PCA	ISO 4832	TEMPO TC	BLBVB	
Renewal study	31	<i>Cronobacter</i>	<i>dublinensis</i>	DSM 18705	Milk powder	48	50	<1	-
	32	<i>Cronobacter</i>	<i>condimenti</i>	LMG 26250T	Meat	90	93	<1	-
	33	<i>Siccibacter</i>	<i>turicensis</i>	E681	Ready to reheat	39	22	11	/
	34	<i>Citrobacter</i>	<i>braakii</i>	Ad2701	Squids	14	10	25	/
	35	<i>Citrobacter</i>	<i>koseri</i>	Ad2731	Sprouts	82	78	72	/
	36	<i>Citrobacter</i>	<i>farmeri</i>	Ad1116	Environmental sample (egg industry)	98	103	136	/
	37	<i>Enterobacter</i>	<i>aerogenes</i>	Ad2569	Cheese	47	60	72	/
	38	<i>Enterobacter</i>	<i>hormaechei</i>	Ad1373	Water	133	120	168	/
	39	<i>Enterobacter</i>	<i>kobei</i>	Ad706	Milk powder	68	68	80	/
	40	<i>Enterobacter</i>	<i>helveticus</i>	DSM18396	Unknown	70	27	<1	doubtful
	41	<i>Escherichia</i>	<i>fergusonii</i>	Ad1381	Water	70	74	<1	-
	42	<i>Escherichia</i>	<i>hermanii</i>	Ad464	Raw milk	130	128	<1	-
	43	<i>Klebsiella</i>	<i>oxytoca</i>	Ad1453	Swimming pool water	22	20	23	/
	44	<i>Klebsiella</i>	<i>pneunomiae</i>	Ad1594	Swimming pool water	20	25	23	/
	45	<i>Klebsiella</i>	<i>pneumoniae</i>	Ad1374	Water	98	107	90	/
	46	<i>Klebsiella</i>	<i>oxytoca</i>	Ad1371	Water	14	11	16	/
	47	<i>Serratia</i>	<i>liquefaciens</i>	Ad2601	Dairy product	25	22	40	/
	48	<i>Serratia</i>	<i>proteomaculans</i>	Ad1698	Salmon	67	29	21	/
	49	<i>Serratia</i>	<i>marcescens</i>	Ad2604	Dairy product	52	66	39	/
	50	<i>Serratia</i>	<i>fonticola</i>	Ad1696	Salmon	25	23	23	/

EXCLUSIVITY									
Lab code	Strain		Reference	Origin	PCA	ISO 4832	TEMPO TC	BLBVB	
Initial validation study	1	<i>Aeromonas</i>	<i>hydrophila</i>	CIP 5750	/	>300/>300	77/82	<1/<1	/
	2	<i>Aeromonas</i>	<i>sobria</i>	CIP 7433	/	>300/>300	<1/<1	<1/<1	/
	3	<i>Bacillus</i>	<i>circulans</i>	ATCC 4513	/	>300/>300	<1/<1	<1/<1	/
	4	<i>Bacillus</i>	<i>subtilis</i>	ATCC 6633	/	>300/>300	<1/<1	<1/<1	/
	5	<i>Edwardsiella</i>	<i>tarda</i>	CIP 7861	/	51/61	35(-7)	<1/<1	/
	6	<i>Erwinia</i>	<i>carotovora</i>	CIP 103762	/	86/82	<1/<1	290(-3)	/
	7	<i>Lactobacillus</i>	<i>paracasei</i>	ATCC 10746	/	99/104	99/97	57/51	-
	8	<i>Morganella</i>	<i>morganii</i>	CIP A236	/	51/46	26/48	<1/<1	-
	9	<i>Proteus</i>	<i>mirabilis</i>	54	Poultry meat	46/52	43/45	45/41	Doubtful
	10	<i>Proteus</i>	<i>vulgaris</i>	56	Food	132/131	141/142	<1/<1	-
	11	<i>Providencia</i>	<i>rettgeri</i>	12	Liquid egg white	30/26	32/32	<1/<1	-
	12	<i>Providencia</i>	<i>stuartii</i>	46	Turkey meat	115/102	110/118	<1/<1	-
	13	<i>Pseudomonas</i>	<i>aeruginosa</i>	ATCC27853	/	32/43	<1/<1	<1/<1	/
	14	<i>Pseudomonas</i>	<i>fluorescens</i>	CIP 5690	/	>300/>300	<1/<1	<1/<1	/
	15	<i>Pseudomonas</i>	<i>putida</i>	11	Egg product	>300/>300	<1/<1	<1(-3)	/
	16	<i>Salmonella</i>	<i>arizonae</i>	CIP 5523	/	124/95	85/91	120/91	-
	17	<i>Salmonella</i>	Enteritidis	2532	Ham	46/34	35/45	43/43	-
	18	<i>Salmonella</i>	Typhimurium	305	Paella	49/41	40/29	31/48	-
	19	<i>Shigella</i>	<i>flexneri</i>	CIP 8248	/	31/26	28/26	<1/<1	-
	20	<i>Xanthomonas</i>	<i>maltophilia</i>	CIP 6077	/	11/10	2/4	<1/<1	/
Renewal study	21	<i>Buttiauxella</i>	<i>agrestis</i>	Ad1328	Egg product	11	12 / 18	<1/<1	-
	22	<i>Kluyvera</i>	<i>ascorbata</i>	Ad229	Fish	28	37	26	+
	23	<i>Leclercia</i>	<i>adecarboxylata</i>	Ad707	Milk powder	26	26	17	+
	24	<i>Lelliottia</i>	<i>amnigena</i>	Ad1319	Water	76	40	<1	-
	25	<i>Pantoea</i>	<i>agglomerans</i>	A00L065	Cheese	95	99	93	+
	26	<i>Providencia</i>	<i>stuartii</i>	Ad1575	Water	77 / 84	70 / 84 NC(<0,5mm)	<1 / <1	-
	27	<i>Raoultella</i>	<i>terrigena</i>	Ad1370	Water	61	59	90	+
	28	<i>Proteus</i>	<i>vulgaris</i>	Ad984	Pork meat	54 / 72	74 / 64 NC(<0,5mm, pale)	<1 / <1	-
	29	<i>Proteus</i>	<i>mirabilis</i>	Ad639	Mayonnaise	108	89 NC(<0,5mm)	<1	-
	30	<i>Yersinia</i>	<i>enterocolitica</i>	Ad1028	Pork (speck)	54	49	30	-

Appendix 10 – Results obtained by the Expert Laboratory and each collaborator

Laboratory	Sample No	Reference method: ISO 4832					Alternative method : TEMPO TC			
		Dilution	CFU/ plate a	CFU/ plate b	CFU/ml	log CFU/ml	D 1/40	D1/400	log CFU/ml (1/40)	log CFU/ml (1/400)
A Aerobic mesophilic flora: 1,8.10 ⁴ /ml	A1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	A6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	A2	10	8	11	100	2,00	100	<100	2,00	<2
		100	0	1						
	A7	10	9	8	90	1,95	71	100	1,85	2,00
		100	0	1						
	A3	10	81	72	800	2,90	930	440	2,97	2,64
		100	10	12						
	A8	10	82	98	920	2,96	1700	730	3,23	2,86
		100	11	11						
	A4	100	88	90	8900	3,95	12000	8300	4,08	3,92
		1000	8	9						
A5	100	81	97	9000	3,95	5200	9300	3,72	3,97	
	1000	7	12							
B Aerobic mesophilic flora: 4,1.10 ⁴ /ml	B1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	B6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	B2	10	12	9	110	2,04	100	210	2,00	2,32
		100	1	1						
	B7	10	9	11	100	2,00	130	<100	2,11	<2,00
		100	1	0						
	B3	10	80	87	850	2,93	1100	570	3,04	2,76
		100	8	11						
	B8	10	94	93	950	2,98	1100	450	3,04	2,65
		100	12	9						
	B4	100	98	101	10000	4,00	21000	10000	4,32	4,00
		1000	12	9						
B5	100	82	86	8300	3,92	11000	8100	4,04	3,91	
	1000	6	8							
C Aerobic mesophilic flora: 2,9.10 ⁵ /ml	C1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	C6	10	1	1	5	0,70	<10	<100	<1	<2
		100	0	0						
	C2	10	10	7	85	1,93	73	<100	1,86	<2
		100	1	0						
	C7	10	13	7	100	2,00	130	100	2,11	<2
		100	0	0						
	C3	10	66	34	510	2,71	730	590	2,86	2,77
		100	7	4						
	C8	10	63	67	680	2,83	530	210	2,72	2,32
		100	8	11						
	C4	100	63	78	7000	3,85	9100	11000	3,96	4,04
		1000	8	5						
C5	100	73	69	7100	3,85	12000	7100	4,08	3,85	
	1000	5	10							

Laboratory	Sample No	Reference method: ISO 4832					Alternative method : TEMPO TC			
		Dilution	CFU/ plate a	CFU/ plate b	CFU/ml	log CFU/ml	D 1/40	D1/400	log CFU/ml (1/40)	log CFU/ml (1/400)
D Aerobic mesophilic flora: 4,1.10 ³ /ml	D1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	D6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	D2	10	11	8	95	1,98	44	<100	1,64	<2
		100	1	0						
	D7	10	12	4	80	1,90	100	210	2,00	<2
		100	1	0						
	D3	10	71	90	810	2,91	1000	590	3,00	2,77
		100	9	9						
	D8	10	81	89	810	2,91	530	710	2,72	2,85
		100	4	5						
	D4	100	74	89	7800	3,89	12000	12000	4,08	4,08
		1000	5	4						
D5	100	93	88	8900	3,95	11000	15000	4,04	4,18	
	1000	5	9							
E Aerobic mesophilic flora: 2,0.10 ³ /ml	E1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	E6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	E2	10	7	15	110	2,04	59	<100	1,77	<2
		100	0	1						
	E7	10	12	14	130	2,11	69	100	1,84	2,00
		100	1	1						
	E3	10	87	90	860	2,93	830	450	2,92	2,65
		100	4	7						
	E8	10	85	83	860	2,93	730	330	2,86	2,52
		100	10	10						
	E4	100	87	79	8500	3,93	11000	5700	4,04	3,76
		1000	10	10						
E5	100	99	96	9700	3,99	7800	4600	3,89	3,66	
	1000	10	9							
F Aerobic mesophilic flora: 4,0.10 ³ /ml	F1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	F6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	F2	10	8	7	75	1,88	100	210	2,00	<2
		100	0	1						
	F7	10	14	4	90	1,95	71	100	1,85	2,00
		100	3	1						
	F3	10	80	60	680	2,83	630	1500	2,80	3,18
		100	3	6						
	F8	10	70	90	800	2,90	730	110	2,86	2,04
		100	4	11						
	F4	100	85	93	8700	3,94	11000	6900	4,04	3,84
		1000	5	9						
F5	100	80	90	8500	3,93	12000	7300	4,08	3,86	
	1000	7	9							

Laboratory	Sample No	Reference method: ISO 4832					Alternative method : TEMPO TC			
		Dilution	CFU/ plate a	CFU/ plate b	CFU/ml	log CFU/ml	D 1/40	D1/400	log CFU/ml (1/40)	log CFU/ml (1/400)
G Aerobic mesophilic flora: 1,9.10 ³ /ml	G1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	G6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	G2	10	9	10	95	1,98	110	330	2,04	2,52
		100	1	1						
	G7	10	13	12	130	2,11	110	100	2,04	2,00
		100	2	1						
	G3	10	65	59	630	2,80	1300	860	3,11	2,93
		100	7	7						
	G8	10	84	75	790	2,90	580	730	2,76	2,86
		100	7	8						
	G4	100	73	68	7000	3,85	9100	11000	3,96	4,04
		1000	6	7						
	G5	100	61	56	5900	3,77	21000	9500	4,32	3,98
		1000	6	7						
H Aerobic mesophilic flora: 1,6.10 ³ /ml	H1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	H6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	H2	10	9	11	100	2,00	140	<100	2,15	<2
		100	3	0						
	H7	10	7	5	60	1,78	140	<100	2,15	<2
		100	1	1						
	H3	10	55	65	590	2,77	920	570	2,96	2,76
		100	3	6						
	H8	10	70	60	660	2,82	1000	450	3,00	2,65
		100	10	6						
	H4	100	80	80	7800	3,89	21000	8300	4,32	3,92
		1000	6	6						
	H5	100	75	100	9000	3,95	25000	7900	4,40	3,90
		1000	13	10						
I Aerobic mesophilic flora: 3,0.10 ⁴ /ml	I1	10	0	1	5	0,70	<10	<100	<1	<2
		100	0	0						
	I6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	I2	10	12	12	120	2,08	120	210	2,08	2,32
		100	3	2						
	I7	10	8	9	90	1,95	71	<100	1,85	<2
		100								
	I3	10	73	76	730	2,86	1100	320	3,04	2,51
		100	6	5						
	I8	10	95	87	900	2,95	1100	890	3,04	2,95
		100	10	6						
	I4	100	81	93	8600	3,93	12000	13000	4,08	4,11
		1000	8	8						
	I5	100	93	85	8800	3,94	15000	6400	4,18	3,81
		1000	8	8						

Laboratory	Sample No	Reference method: ISO 4832					Alternative method : TEMPO TC			
		Dilution	CFU/ plate a	CFU/ plate b	CFU/ml	log CFU/ml	D 1/40	D1/400	log CFU/ml (1/40)	log CFU/ml (1/400)
J Aerobic mesophilic flora: 4,0.10 ⁴ /ml	J1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	J6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	J2	10	8	5	65	1,81	10	<100	1,00	<2,00
		100	1	0						
	J7	10	7	7	70	1,85	73	210	1,86	2,32
		100	0	0						
	J3	10	107	107	1100	3,04	730	1300	2,86	3,11
		100	8	12						
	J8	10	89	69	790	2,90	830	990	2,92	3,00
		100	9	7						
	J4	100	76	61	7000	3,85	9100	10000	3,96	4,00
		1000	9	9						
J5	100	71	77	7400	3,87	7800	5700	3,89	3,76	
	1000	6	8							
K Aerobic mesophilic flora: 7,5.10 ³ /ml	K1	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	K6	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	K2	10	10	9	95	1,98	86	100	1,93	2,00
		100	0	0						
	K7	10	5	9	70	1,85	59	100	1,77	<2
		100	0	2						
	K3	10	89	75	800	2,90	830	590	2,92	2,77
		100	6	6						
	K8	10	87	75	820	2,91	1200	1100	3,08	3,04
		100	7	11						
	K4	100	75	82	7800	3,89	12000	11000	4,08	4,04
		1000	7	8						
K5	100	74	96	9000	3,95	11000	7000	4,04	3,85	
	1000	16	11							
L Aerobic mesophilic flora: 2,5.10 ⁴ /ml	L1	10	0	1	5	0,70	<10	<100	<1	<2
		100	0	0						
	L6	10	0	1	5	0,70	<10	<100	<1	<2
		100	0	0						
	L2	10	10	12	110	2,04	45	<100	1,65	<2
		100	1	0						
	L7	10	9	8	85	1,93	130	<100	2,11	<2,00
		100	2	0						
	L3	10	84	87	840	2,92	900	590	2,95	2,77
		100	7	6						
	L8	10	89	94	930	2,97	1200	710	3,08	2,85
		100	12	10						
	L4	100	88	91	9100	3,96	15000	18000	4,18	4,26
		1000	9	12						
L5	100	93	106	10000	4,00	30000	12000	4,48	4,08	
	1000	8	12							

Laboratory	Sample No	Reference method: ISO 4832 [♦]					Alternative method : TEMPO TC			
		Dilution	CFU/ plate a	CFU/ plate b	CFU/ml	log CFU/ml	D 1/40	D1/400	log CFU/ml (1/40)	log CFU/ml (1/400)
ADRIA Aerobic mesophilic flora: 3,1.10 ³ /ml	1588	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	1589	10	0	0	<10	<1	<10	<100	<1	<2
		100	0	0						
	1590	10	8	8	77	1,89	71	100	1,85	2,00
		100	0	1						
	1591	10	6	6	59	1,77	120	<100	2,08	<2,00
		100	0	1						
	1592	10	82	83	830	2,92	830	860	2,92	2,93
		100	8	9						
	1593	10	101	94	970	2,99	730	730	2,86	2,86
		100	6	12						
	1594	100	73	65	6800	3,83	6800	21000	3,83	4,32
		1000	4	8						
	1595	100	90	65	7900	3,90	6800	12000	3,83	4,08
		1000	8	11						

♦ Analyses performed according to the COFRAC accreditation