

**NF VALIDATION - Validation of alternative analysis methods
Application to the food industry**

**Summary report
according to the standard EN ISO 16140-2/A1:2024**

Quantitative method

**NEOGEN® Petrifilm® Select *E. coli* Count (SEC) plate
(certificate # 3M 01/08 – 06/01)
for the enumeration of β -glucuronidase positive *Escherichia coli*
in all human food products, pet food and production
environmental samples**

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This report contains 125 pages including 70 pages of appendices.
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Preamble

- Protocols of validation:

- EN ISO 16140-1 and EN ISO 16140-2/A1 (2024): Microbiology of the food chain — Method validation
Part 1: Vocabulary.
Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method.
- Requirements regarding comparison and interlaboratory studies for implementation of the standard EN ISO 16140-2 (Version 12).

- Reference method:

- ISO 16649-2 (July 2001): Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of *B*-glucuronidase-positive *Escherichia coli* - Part 2: colony-count technique at 44 °C using 5- bromo-4-chloro-3-indolyl B-D-glucuronate

- Application scope:

- All human food products,
- Pet food,
- Production environmental samples.

- Certification body:

- AFNOR Certification (<https://nf-validation.afnor.org/>).

Definitions

•Method comparison study

The method comparison study is the part of the validation process that is performed in the expert laboratory. It consists of four parts:

- A comparative study of the results of the reference method to the results of the alternative method in a variety of different items (naturally and/or artificially) contaminated samples (so-called relative trueness study).
- A comparative study of the results of the reference method to the results of the alternative method in artificially contaminated samples using replicates of a single item per category. The data are analyzed using the accuracy profile (AP) approach (so-called AP study).
- An inclusivity/exclusivity study of the alternative method.

•Relative trueness study

The relative trueness study is a comparative study between the results obtained by the reference method and the results of the alternative method.

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.

•Accuracy profile study

The accuracy profile study is a comparative study between the results obtained by the reference method and the results of the alternative method.

The accuracy profile is the 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.

•Inclusivity and exclusivity study

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.

•Interlaboratory study

The interlaboratory 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 aim of an interlaboratory study is to determine the variability of the results obtained in different laboratories using identical samples.

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Appendices:

- **Initial validation study: interpretation of 2 successive dilutions**

Appendix A: Protocol of the alternative method

Appendix B: Protocol of the reference method

Appendix C: Artificial contamination

Appendix D: Raw results of relative trueness study

Appendix E: Raw data of accuracy profiles

Appendix F: Summarized results of accuracy profiles

Appendix G: Raw results of inclusivity and exclusivity study

Appendix H: Raw results of inter-laboratories study

- **Extension study: interpretation of 1 dilution and 1 plate**

Appendix I: Artificial contamination

Appendix J: Relative trueness study – raw data

Appendix K: Relative trueness study – results and calculations

Appendix L: Accuracy profile study - raw data

- **Extension study: automatic reading by PPRA**

Appendix M: Artificial contamination

Appendix N: Relative trueness study – raw data

Appendix O: Accuracy profile study - raw data

1. Introduction

The NEOGEN® Petrifilm® Select *E. coli* Count (SEC) Plate was validated on the 14th of June 2001 according to the EN ISO 16140:2003 and the AFNOR Certification technical rules (Certificate number 3M 01/08 - 06/01).

Table 1 summarizes the different steps of the validation that occurred since the initial validation.

Table 1: Steps of the validation AFNOR certification

Date	Study	Expert Laboratory	Standards
June 2001	Initial validation	ADRIA Développement	/
2005	First renewal: interpretation of the data according to ISO 16140:2003	ADRIA Développement	EN ISO 16140:2003
2009	Renewal: interpretation of the data from the inter-laboratory study according to ISO 16140/A1	ADRIA Développement	EN ISO 16140/A1
2013	Renewal	ADRIA Développement	/
February 2015	Extension study for pet food and environmental samples	ADRIA Développement	/
June 2016	Renewal according to the ISO 16140 (2003)	ADRIA Développement	EN ISO 16140:2003
October 2021	Renewal according to the ISO 16140-2 (2016)	ADRIA Développement	EN ISO 16140-2:2016
April 2025	Renewal according to the ISO 16140-2/A1 (2024) extension One Plate approach + extension PPRA	Laboratoire MICROSEPT	EN ISO 16140-2/A1 (2024)

All the results presented in this summary report were produced during the initial validation tests performed by ADRIA Développement within the framework of the brand NF VALIDATION according to the current requirements.

An extension study was carried out in 2025 with One plate approach. For this extension study, no testing was performed, but only a reinterpretation of data already validated using a single dilution for relative trueness study and accuracy profile study.

A second extension was carried out in parallel in 2025 for the implementation of an automatic reader Petrifilm Plate Reader Advanced. For this extension, a comparison between manual reading by a technician and automatic reading was carried out.

2. Protocols of the methods

2.1. Alternative method

2.1.1. Principle of the method

The NEOGEN Petrifilm Select *E. coli* Count (SEC) Plate is a sample-ready- culture medium system which contains selective agents, nutrients, a cold- water-soluble gelling agent, and an indicator of glucuronidase activity, 5-bromo4-chloro-3-indolyl-D-glucuronide (BCIG), which facilitates colony enumeration. Most *E. coli* strains are thermotolerant and produce beta- glucuronidase, an enzyme that reacts with BCIG indicator in NEOGEN Petrifilm SEC Plates to produce dark green to blue-green colonies. NEOGEN Petrifilm SEC Plate components are decontaminated though not sterilized.

The enumeration of *Escherichia coli* is obtained after 24 h $\pm$ 2h incubation at 42.0°C $\pm$ 1°C.

The minimum incubation time was applied during the validation studies: 22 h at 42.0°C.

2.1.2. Protocol of the method

The workflow of the method is set out in Appendix A.

2.1.3. Restrictions

There are no restrictions for use.

2.2. Reference method

The standard method is the ISO 16649-2 (July 2001): Horizontal method for the enumeration of β -glucuronidase positive *Escherichia coli* – Part 2: colony- count technique at 44°C using 5-bromo-4-chloro-3 indolyl β -D-glucuronate.

The workflow of the reference method is presented in Appendix B.

3. Method comparison study: initial validation study

3.1. Relative trueness study

The study was conducted on a variety of samples and strains representative of food products. This is not an exhaustive list of the various matrices included in the application scope. For any remark on the alternative method, you can contact AFNOR Certification by connecting to the Internet page <http://nf-validation.afnor.org/contact-2/>.

3.1.1. Number and nature of the samples

Seven categories were tested. Taking into account all the studies, the repartition per tested category and type is provided in Table 2.

259 samples were analyzed, leading to 152 exploitable results by both the alternative and the reference methods.

Table 2: number and nature of the samples analyzed

Category		Type		Number of tested samples	Number of samples with interpretable results by both methods
1	Meat products	a	Raw meat	25	10
		b	Delicatessen	20	8
		c	RTE, RTRH	9	5
		Total		54	23
2	Dairy products	a	Milk	11	6
		b	Cheeses	17	8
		c	Soft cheese, fermented products, cream ...	6	6
		Total		34	20
3	Seafood	a	Raw seafood	20	6
		b	Processed	6	5
		c	RTE, RTRH	5	5
		Total		31	16
4	Vegetables	a	Raw	15	11
		b	Processed	17	11
		c	RTE, RTRH	6	6
		Total		38	28
5	Egg products and composite food	a	Egg products	25	14
		b	Pastries	5	5
		c	Composite meals	11	7
		Total		41	26
6	Pet food	a	Low moisture products	9	6
		b	Pâtés, terrines	6	6
		c	Raw material	11	7
		Total		26	19
7	Environmental samples	a	Surfaces	12	6
		b	Process water	12	7
		c	Dusts	11	7
		Total		35	20
All categories				259	152

3.1.2. Artificial contamination of the samples

All the samples tested for the initial validation study were naturally contaminated. Artificial contaminations, using spiking or seeding protocols, were applied for pet food and environmental categories extension study and for this renewal study.

The inoculated strains, the contamination protocols, the injured protocols of the inoculated cells and the injury evaluation are provided in Appendix C. Injury efficiency was evaluated by enumerating the pure culture on selective (TBX) and non-selective (PCA) agars.

Combining all the studies, 182 non-spiked samples and 77 spiked samples were tested; 152 gave interpretable results by both methods. 53% of the samples giving interpretable results by both methods were naturally contaminated.

3.1.3. Results

The raw data are provided in Appendix D.

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

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

- Interpretable results with reference and 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 is a summary of all the results obtained.

Table 3: summary of the results of the relative trueness study

Category		Type	Number of tested samples	Number of samples with interpretable results by both methods	Number of samples with less than 4 colonies/plate	Number of samples below or above the quantification limit	
1	Meat products	a	Raw meat	25	10	9	6
		b	Delicatessen	20	8	4	8
		c	RTE, RTRH	9	5	4	0
			Total	54	23	17	14
2	Dairy products	a	Milk	11	6	5	0
		b	Cheeses	17	8	5	4
		c	Soft cheese, fermented	6	6	0	0
			Total	34	20	10	4
3	Seafood	a	Raw seafood	20	6	4	10
		b	Processed	6	5	0	1
		c	RTE, RTRH	5	5	0	0
			Total	31	16	4	11
4	Vegetables	a	Raw	15	11	2	2
		b	Processed	17	11	2	4
		c	RTE, RTRH	6	6	0	0
			Total	38	28	4	6
5	Egg products and composite	a	Egg products	25	14	11	0
		b	Pastries	5	5	0	0
		c	Composite meals	11	7	2	2
			Total	41	26	13	2
6	Pet food	a	Low moisture products	9	6	2	1
		b	Pâtés, terrines	6	6	0	0
		c	Raw material	11	7	0	4
			Total	26	19	2	5
7	Environmental samples	a	Surfaces	12	6	0	6
		b	Process water	12	7	0	5
		c	Dusts	11	7	0	4
			Total	35	20	0	15
All categories			259	152	50	57	

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

Table 4: samples which were not used in the calculations

Year of analysis	Sample n°	Product	Reference method (log CFU/g)	Alternative method (log CFU/g)	Category	Type
2000	A5	Frozen breast of chicken	1.40*	1.70	1	a
2000	A6	Frozen breast of chicken	1.30*	1.95	1	a
2000	A10	Meat cutlet	1.18*	<1.00	1	a
2000	A19	Pork tongue	1.30*	1.78	1	a
2000	A24	Chicken gizzards	1.00*	<1	1	a
2000	A27	Chicken heart	<1.00	1.95	1	a
2000	A30	Cockerel	1.00*	2.13	1	a
2000	A31	chicken	1.40*	1.78	1	a
2000	A32	Cockerel	1.00*	1.70	1	a
2000	A33	Chicken legs	1.18*	2.13	1	a
2000	A90	Cockerel	1.48*	2.32	1	a
2000	A91	Chicken cutlet	1.18*	<1.00	1	a
2000	A111	Guineafowl	<1.00	2.19	1	a
2000	A113	Turkey cutlet	1.30*	1.70	1	a
2000	A114	Chicken cutlet	<1.00	<1.00	1	a
2000	A2	Toulouse sausages	<1.00	<1.00	1	b
2000	A40	Sausage meat	<1.00	<1.00	1	b
2000	A54	Sausage meat preparation	<1.00	<1.00	1	b
2000	A55	Sausage meat preparation	0.66*	1.00*	1	b
2000	A56	Sausage meat preparation	<1.00	1.30*	1	b
2000	A57	Chipolatas	0.66*	<1.00	1	b
2000	A58	Chipolatas with aromatic herbs	<1.00	1.48*	1	b
2000	A66	Merguez	0.66*	1.30*	1	b
2000	A67	Sausage meat preparation	<1.00	1.00*	1	b
2000	A68	Toulouse sausages	0.66*	1.30*	1	b
2000	A69	Chipolatas	<1.00	1.00*	1	b
2000	A75	Chipolatas with aromatic herbs	1.18*	1.48	1	b
2000	A3	Stuffed roast	1.00*	1.70	1	c
2000	A38	Veal olive	0.66*	1.70	1	c
2000	A39	Veal olive	1.13*	1.95	1	c
2000	A73	Chicken gizzards	1.00*	1.00	1	c
2000	A62	Raw milk	-0.04*	0.48*	2	a
2000	A63	Raw milk	0.70*	0.70*	2	a
2000	A85	Raw milk	0.94*	1.26*	2	a
2000	A87	Raw milk	1.83	1.00*	2	a
2000	A88	Raw milk	0.50*	0.66*	2	a
2000	A7	Bethmal	1.00*	1.70	2	b
2000	A13	Cheese (Crottin de Chavignol)	1.65	1.48*	2	b
2000	A21	Cheese (Crottin de Chavignol)	1.00*	1.00*	2	b
2000	A23	Cheese (Tomme du Nevet)	<1.00	<1.00	2	b
2000	A46	Munster	1.00*	<1.00	2	b
2000	A59	Camembert	1.56*	1.60	2	b
2000	A61	Bethmal	0.70*	<1.00	2	b
2000	A64	Reblochon	1.00*	1.00*	2	b
2000	A98	Ewe's raw milk cheese	<1.00	1.00*	2	b

Year of analysis	Sample n°	Product	Reference method (log CFU/g)	Alternative method (log CFU/g)	Category	Type
2000	A35	Frozen shells	<1.00	<1.00	3	a
2000	A127	Cockles	<1.00	1.30*	3	a
2000	A128	Cockles	<1.00	<1.00	3	a
2000	A133	Sea almond	<1.00	<1.00	3	a
2000	A134	Clams	<1.00	<1.00	3	a
2000	A135	Cockles	<1.00	<1.00	3	a
2000	A136	Oysters	<1.00	<1.00	3	a
2000	A145	Clams	<1.00	<1.00	3	a
2000	A146	Pilchards	<1.00	<1.00	3	a
2000	A147	Mackerel	<1.00	<1.00	3	a
2000	A152	Mackerel	1.48*	1.30*	3	a
2000	A153	Cockles	1.18*	1.30*	3	a
2000	A154	Mussels	0.66*	1.00*	3	a
2000	A132	Smoked salmon	<1.00	<1.00	3	b
2000	A65	Red pepper	1.00*	1.60	4	a
2000	A70	Soya bean sprouts	<1.00	<1.00	4	a
2000	A129	Buckwheat seeds	<1.00	<1.00	4	a
2000	A131	Red peppers	1.18*	1.60	4	a
2000	A48	Frozen spinach puree	<1	<1	4	b
2000	A97	Frozen spinaches	1.48*	2.20	4	b
2000	A106	Frozen vegetable preparation for couscous	1.18*	1.48*	4	b
2000	A107	Frozen sti-fry vegetable assortment	<1.00	1.00*	4	b
2000	A109	Frozen vegetable preparation for ratatouille	<1.00	<1.00	4	b
2000	A130	Frozen spinaches	<1.00	1.60	4	b
2000	A115	Liquid egg product	1.54*	1.60	5	a
2000	A116	Liquid egg product	0.70*	1.60	5	a
2000	A117	Liquid egg product	1.54*	1.30*	5	a
2000	A118	Liquid egg product	1.18*	1.60	5	a
2000	A119	Liquid egg product	1.00*	1.30*	5	a
2000	A120	Liquid egg product	1.30*	1.78	5	a
2000	A121	Liquid egg product	1.18*	1.48*	5	a
2000	A122	Liquid egg product	1.60206	1.30*	5	a
2000	A123	Liquid egg product	1.00*	1.48*	5	a
2000	A124	Liquid egg product	1.18*	1.30*	5	a
2000	A126	Liquid egg product	1.40*	1.60	5	a
2000	A9	Dehydrated chicken cream	<1.00	<1.00	5	c
2000	A36	Frozen goat's milk cheese pizza	<1.00	<1.00	5	c
2000	A41	Toasted cheese sandwich with ham	1.48*	1.60	5	c
2021	3976	Paella with meat and seafood	3.00*	5.40	5	c
2021	4290	Pellets for cat (beef/chicken meat)	2.04	1.30*	6	a
2015	4718	Pellets for dog (poultry)	1.60	<1.00	6	a
2015	4719	Pellets for cat (poultry)	1.00*	1.00*	6	a
2015	3672	Poultry flour	<1.00	<1.00	6	c
2015	3673	Lamb flour	<1.00	<1.00	6	c
2015	3674	Animal flour	<1.00	<1.00	6	c
2015	3675	Animal flour	<1.00	<1.60	6	c

Year of analysis	Sample n°	Product	Reference method (log CFU/g)	Alternative method (log CFU/g)	Category	Type
2015	3906	Wipe (cheese industry)	<1.00	1.00*	7	a
2015	4011	Swab after cleaning (fish industry)	<1.00	<1.00	7	a
2015	4012	Swab after cleaning (fish industry)	<1.00	<1.00	7	a
2015	4013	Wipe after cleaning (fish industry)	<1.00	<1.00	7	a
2015	4014	Wipe after cleaning (fish industry)	<1.00	<1.00	7	a
2015	4015	Wipe after cleaning (fish industry)	<1.00	<1.00	7	a
2015	4006	Process water (fish industry)	<0.00	<0.00	7	b
2015	4007	Process water (fish industry)	<0.00	<0.00	7	b
2015	4008	Process water (fish industry)	<0.00	<0.00	7	b
2015	4009	Process water (fish industry)	<0.00	<0.00	7	b
2015	4010	Process water (fish industry)	<0.00	<0.00	7	b
2015	3676	Dusts from egg industry	<1.00	<1.00	7	c
2015	3677	Dusts	<1.00	<1.00	7	c
2015	3678	Dusts from dairy industry	<1.00	2.08	7	c
2015	3679	Dusts from dairy industry	<1.00	<1.00	7	c

3.1.4. Statistical interpretation

The obtained data were analyzed using the scatter plot.

The graphs are provided with the line of identity "y = x".

The figures 1 to 7 show the data plotted for each individual category. Figure 8 shows the data plotted for all the products.

Figure 1: scatter plots of reference-method versus alternative-method results for meat products

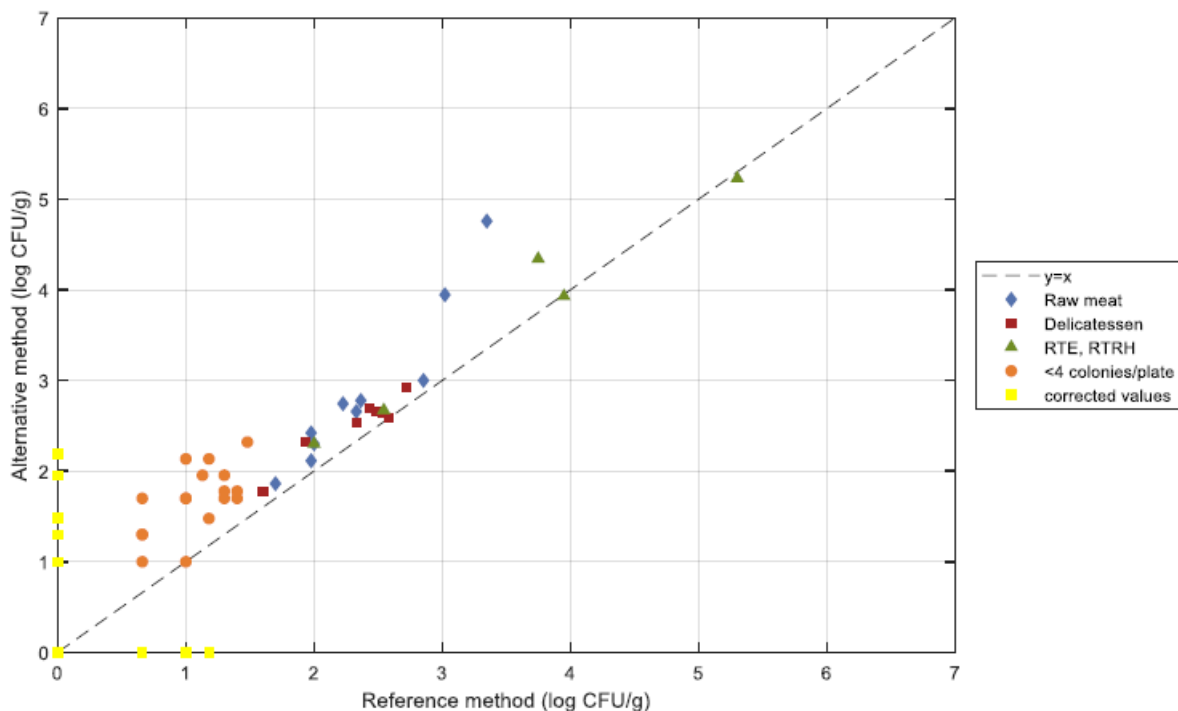


Figure 2: scatter plots of reference-method versus alternative-method results for dairy products

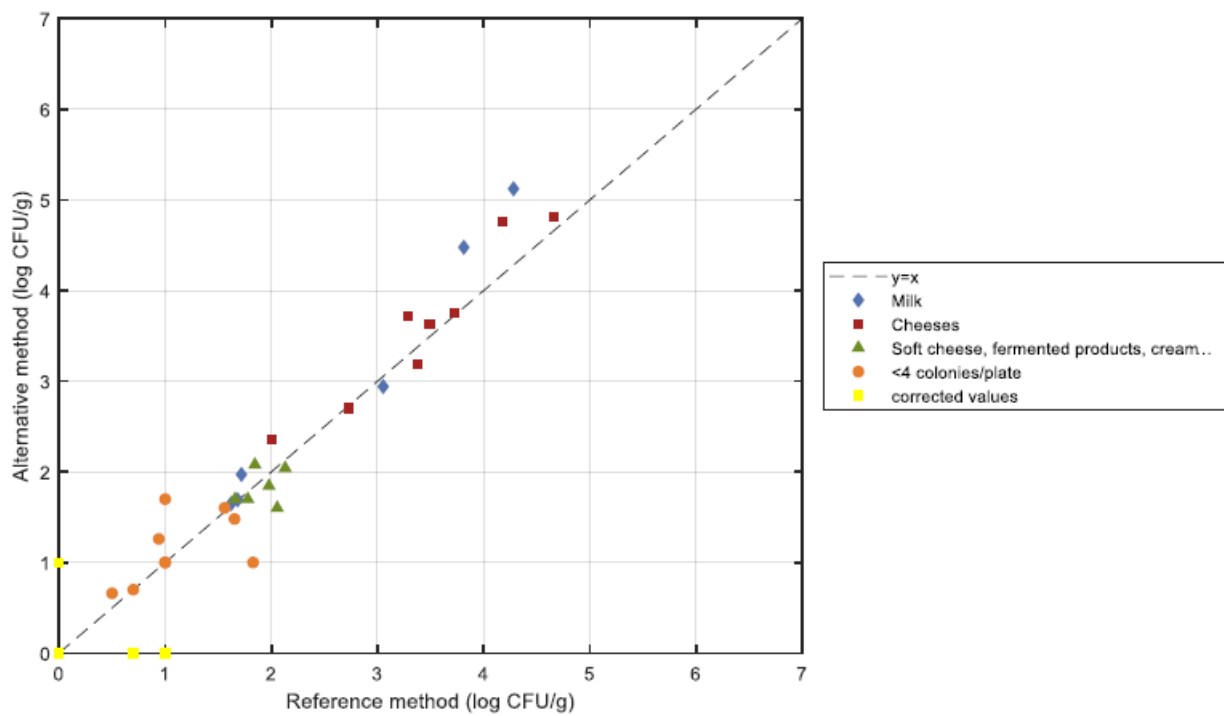


Figure 3: scatter plots of reference-method versus alternative-method results for seafood products

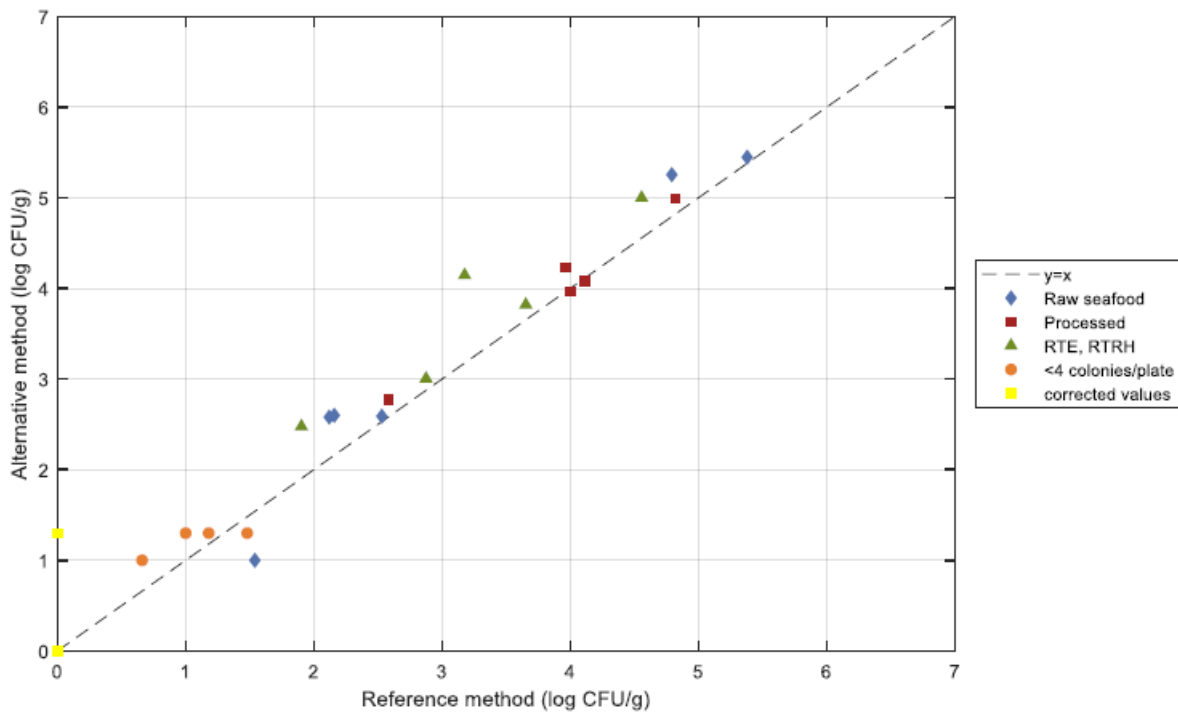


Figure 4: scatter plots of reference-method versus alternative-method results for vegetables

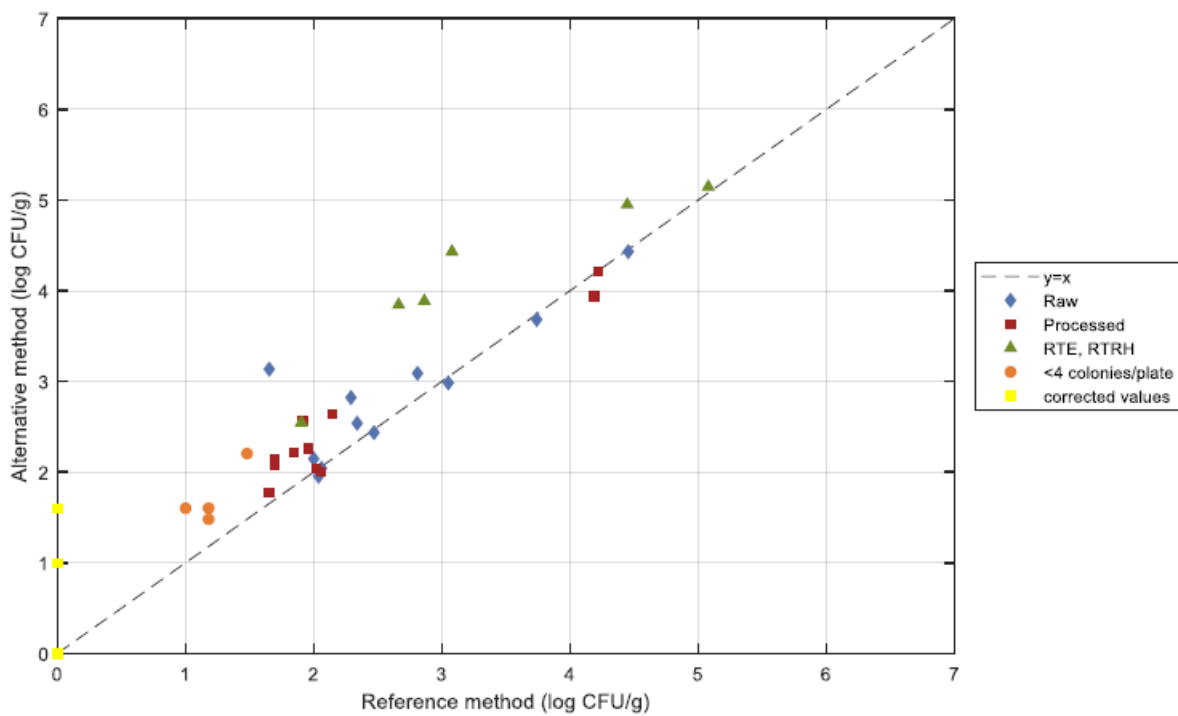


Figure 5: scatter plots of reference-method versus alternative-method results for egg products and composite foods

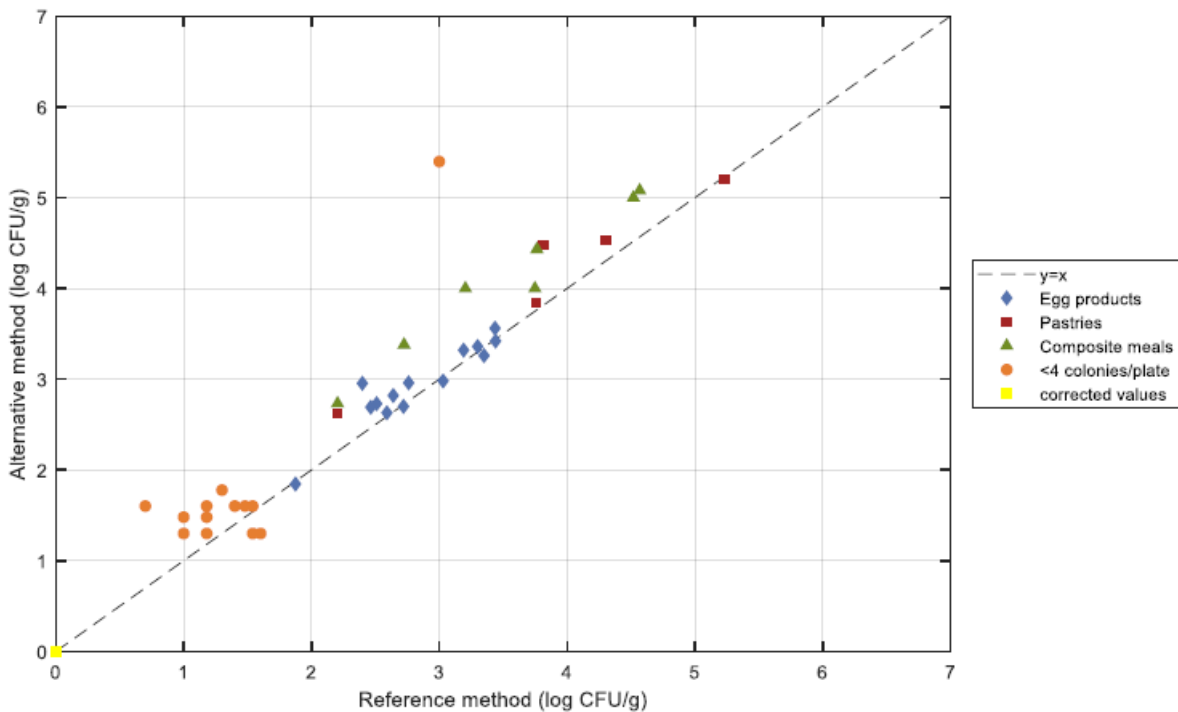


Figure 6: scatter plots of reference-method versus alternative-method results for pet food

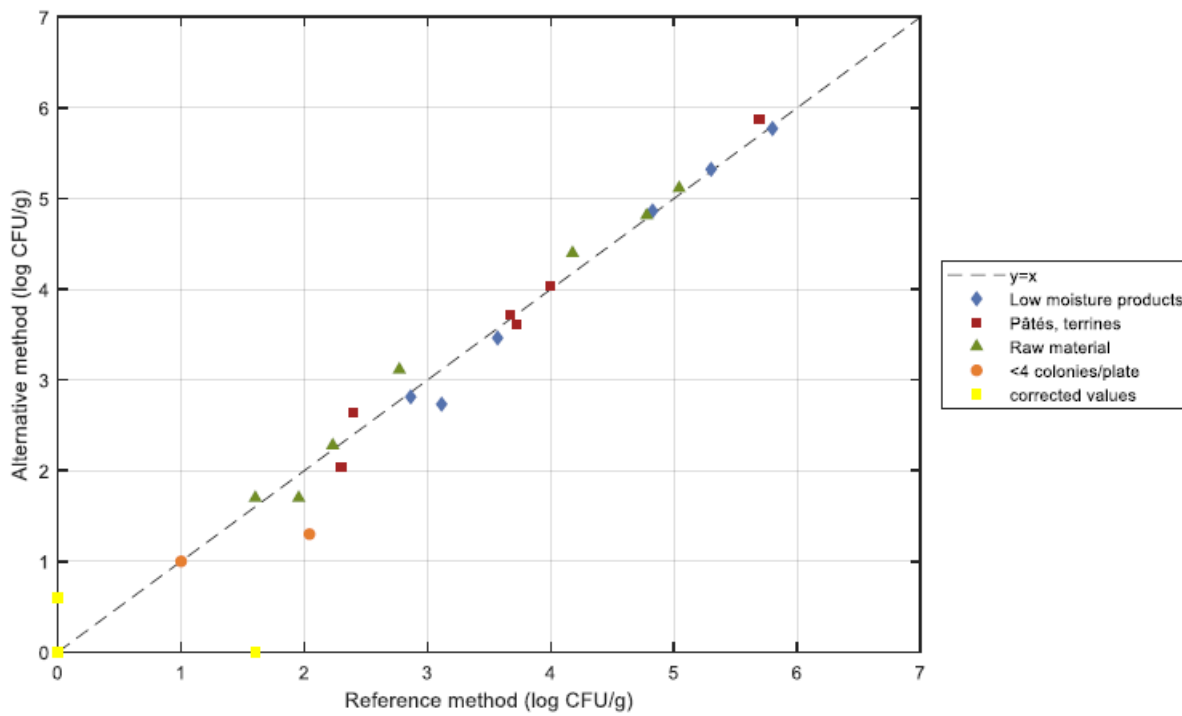


Figure 7: scatter plots of reference-method versus alternative-method results for environmental samples

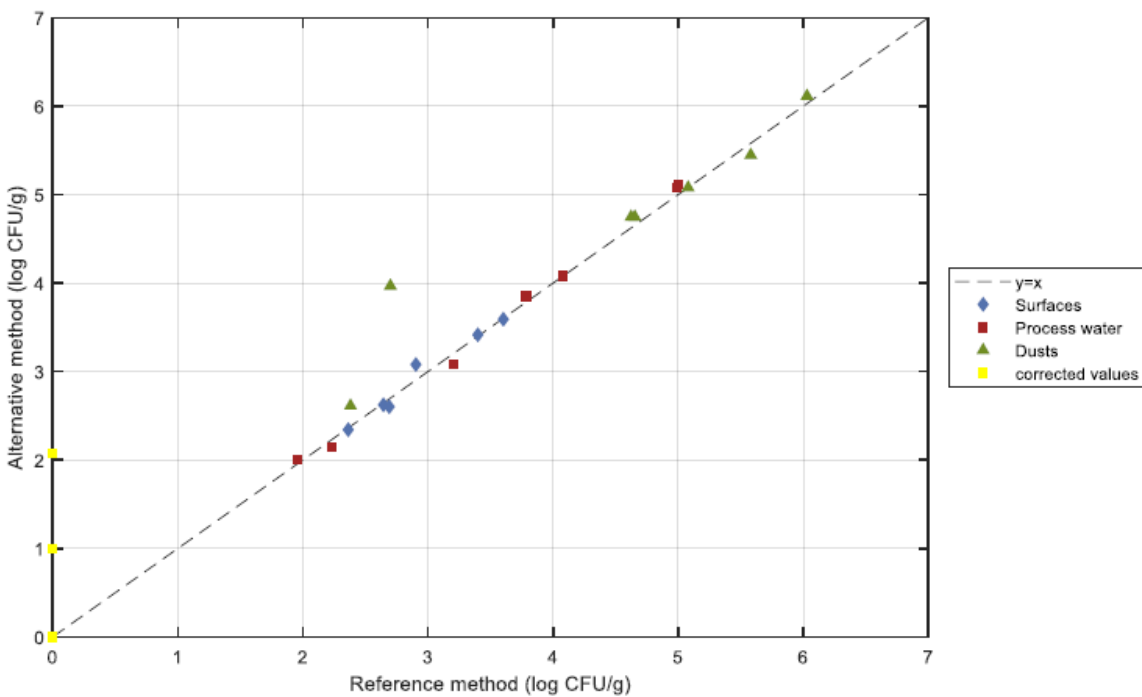
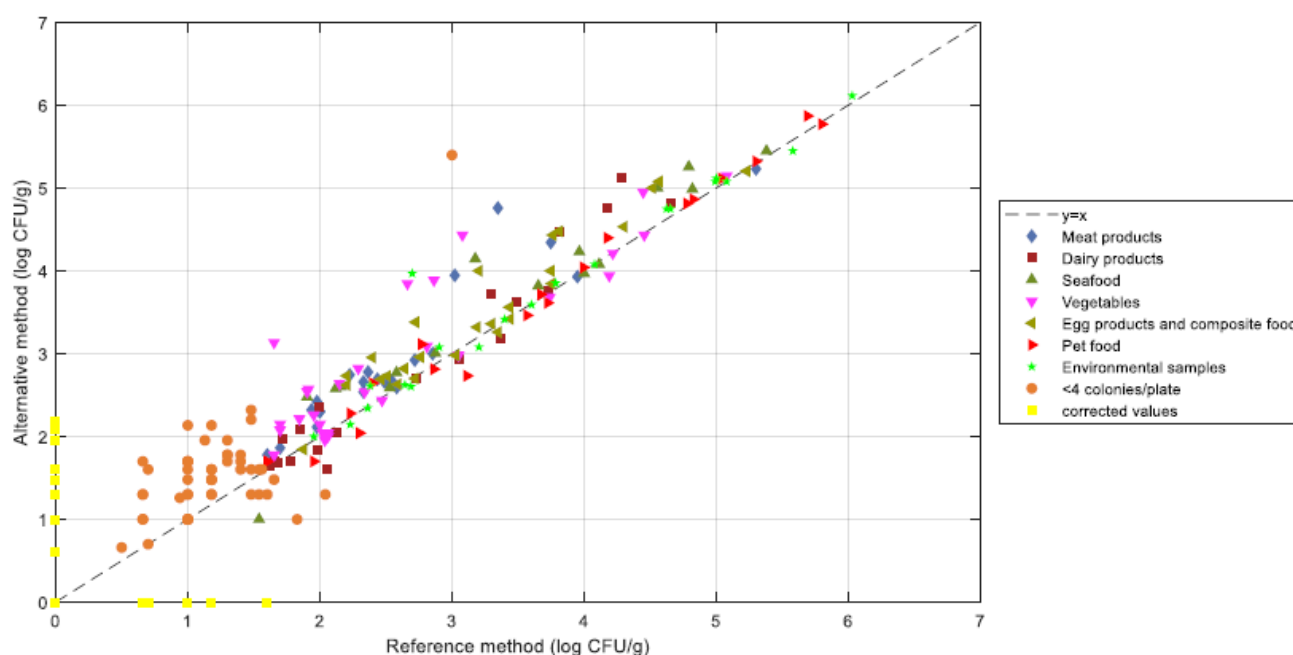


Figure 8: scatter plots of reference-method versus alternative-method results for all products



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

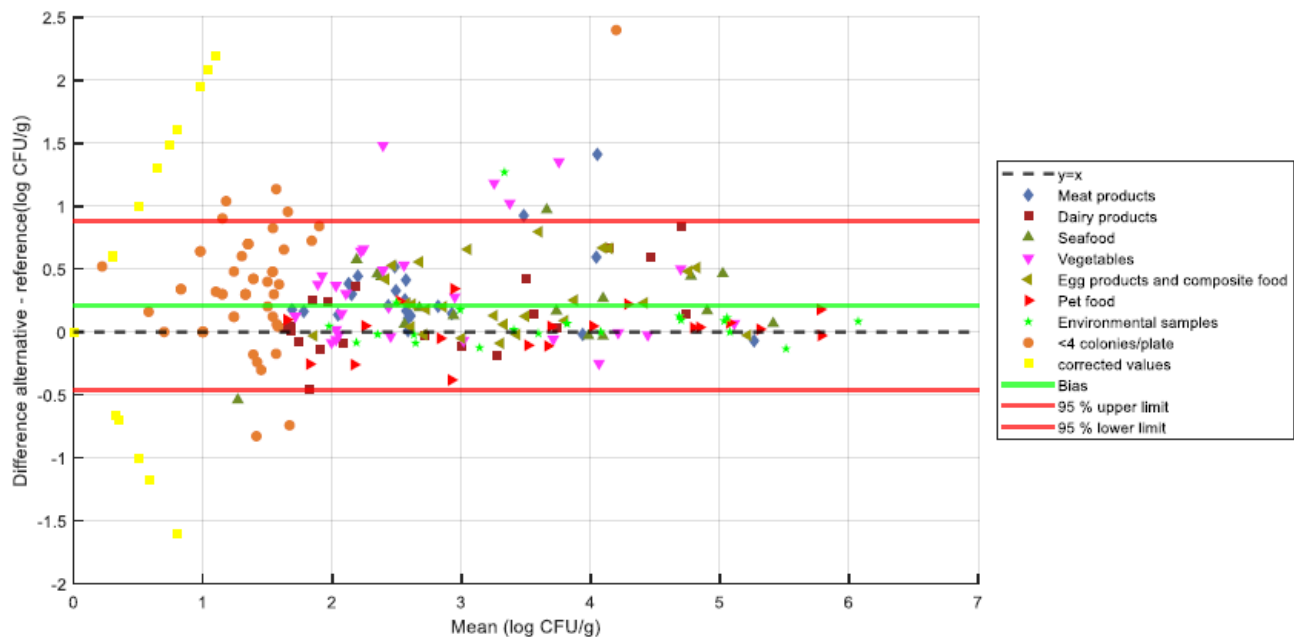
Table 5: calculated values of the relative trueness study

Category		n	D (bias)	SD	95% lower limit	95% upper limit
1	Meat products	23	0,31	0,32	-0,37	1,00
2	Dairy products	20	0,13	0,32	-0,54	0,81
3	Seafood	16	0,24	0,33	-0,50	0,97
4	Vegetables	28	0,34	0,46	-0,61	1,29
5	Egg products and composite food	26	0,26	0,27	-0,30	0,82
6	Pet food	19	0,01	0,18	-0,38	0,40
7	Environmental samples	20	0,09	0,29	-0,54	0,72
All products		152	0,21	0,34	-0,46	0,89

A positive bias is obtained for all the categories tested and varies from 0.01 log CFU (Pet food) to 0,34 log CFU (vegetables). For all categories combined, the bias is 0.21 log CFU. This bias is probably linked to the high selectivity of the TBX medium used in the ISO 16649-2 method and the best performances of the Petrifilm tests.

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

Figure 9: Bland-Altman difference plot for all the samples.



Samples for which the difference between the result observed with reference and alternative methods is above or lower than the limits are listed in Table 6.

Table 6: analysis of the data out of the confidence limits

Classification of the data	Cat	Type	Sample No	Product	Reference method	Alternative method	Values before correction (Reference or/and alternative method)	Mean	Difference	Lower/ Upper/ limits
Interpretable results by both method	1	a	A26	Cockerel	3,02	3,95	/	3,48	0,92	-0.46 / 0.49
	1	a	A95	Chicken liver	3,35	4,76	/	4,05	1,41	
	3	a	A150	Pilchards	1,54	1	/	1,27	-0,54	
	3	c	2697	Salmon steak from Scotland	3,18	4,15	/	3,66	0,97	
	4	a	A76	Cabbage	1,65	3,13	/	2,39	1,48	
	4	c	2700	Potato purée	2,66	3,85	/	3,25	1,18	
	4	c	2701	RTE radish	2,86	3,89	/	3,37	1,02	
	4	c	2702	RTE carrot	3,08	4,43	/	3,76	1,35	
	7	c	4303	Vacuum dusts (from dairy industry)	2,7	3,97	/	3,33	1,27	

Classification of the data	Cat	Type	Sample No	Product	Reference method	Alternative method	Values before correction (Reference or/and alternative method)	Mean	Difference	Lower/ Upper/ limits
< 4 CFU/plate	1	a	A30	Cockerel	1	2,13	/	1,57	1,13	-0.46 / 0.49
	1	a	A33	Chicken legs	1,18	2,13	/	1,66	0,95	
	1	c	A38	Veal olive	0,66	1,7	/	1,18	1,04	
	2	a	A87	Raw milk	1,83	1	/	1,41	-0,83	
	5	a	A116	Liquid egg product	0,7	1,6	/	1,15	0,9	
	5	c	3976	Paella with meat and seafood	3	5,4	/	4,2	2,4	
	6	a	4290	Pellets for cat (beef/chicken meat)	2,04	1,3	/	1,67	-0,74	
< or > quantification limit	1	a	A10	Meat cutlet	1,18	0	1	0,59	-1,18	
	1	a	A24	Chicken gizzards	1	0	1	0,5	-1	
	1	a	A27	Chicken heart	0	1,95	1	0,98	1,95	
	1	a	A91	Chicken cutlet	1,18	0	1	0,59	-1,18	
	1	a	A111	Guineafowl	0	2,19	1	1,09	2,19	
	1	b	A56	Sausage meat preparation	0	1,3	1	0,65	1,3	
	1	b	A57	Chipolatas	0,66	0	1	0,33	-0,66	
	1	b	A58	Chipolatas with aromatic herbs	0	1,48	1	0,74	1,48	
	1	b	A67	Sausage meat preparation	0	1	1	0,5	1	
	1	b	A69	Chipolatas	0	1	1	0,5	1	
	2	b	A46	Munster	1	0	1	0,5	-1	
	2	b	A61	Bethmal	0,7	0	1	0,35	-0,7	
	2	b	A98	Ewe's raw milk cheese	0	1	1	0,5	1	
	3	a	A127	Cockles	0	1,3	1	0,65	1,3	
	4	b	A107	Frozen sti-fry vegetable assortment	0	1	1	0,5	1	
	4	b	A130	Frozen spinaches	0	1,6	1	0,8	1,6	
	6	a	4718	Pellets for dog (poultry)	1,6	0	1.00	0,8	-1,6	
	7	a	3906	Wipe (cheese industry)	0	1	1.00	0,5	1	
	7	c	3678	Dusts from dairy industry	0	2,08	1.00	1,04	2,08	

Values in green: differences in favor of the alternative method

Values in red: differences in favor of the reference method

Values in black: equivalent enumeration observed with both methods

Values in yellow: corrected value

Values in orange: results calculated using enumeration lower than 4 CFU/plate

3.1.5. Discordant results

35 samples are outside of the 95% confidence limits. The samples are classified in three categories (See Table 7).

Table 7: classification of the samples

		Number of samples
Interpretable results by both methods	<LCL	1
	>UCL	8
	Total	9
<4 CFU/plate	<LCL	2
	>UCL	5
	Total	7
< or > quantification limits	<LCL	7
	>UCL	12
	Total	19
Total <LCL		10
Total >UCL		25
Total		35

3.1.6. Conclusion

In all cases, except for environmental samples and pet food, there is a bias between the alternative method and the reference method, reflecting a better recovery of *E. coli* cells by the Petrifilm Select *E. coli* method. The relative trueness study of the alternative method is satisfying for all categories tested even if a positive bias is observed for the NEOGEN Petrifilm Select *E. coli* method.

3.2. Accuracy profiles

3.2.1. Matrices

Seven matrices were tested. A minimum of one type per category, and therefore 2 different batches, was selected, using 6 samples per type. 2 samples are 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. The tested categories, types, matrices, and inoculated strains are provided in Table 8.

Table 8: matrix – strain pairs and inoculation protocols for the accuracy profile study

Category	Type	Matrix	Inoculate d strain	Origin	Inoculation level (CFU/g)
1	Meat products	b- Delicatessen	Rillettes	<i>E. coli</i> 9	Goose rillettes
2	Dairy products	b- Cheese	Pasteurized cheese (Camembert)	<i>E. coli</i> 14	Raw milk
3	Seafood	c- RTE, RTRH	Fish terrine	<i>E. coli</i> Ad228	Raw fish
4	Vegetables	b- Processed	Grated carrots	<i>E. coli</i> 19	Grated carrots
5	Egg products and composite food	b- Pastry	Pastry	<i>E. coli</i> 142	Liquid egg product
6	Pet food	a- Low moisture product	Pellet for cat	<i>E. coli</i> 1	Pork meat
7	Environmental samples	b- Process water	Process water	<i>E. coli</i> Ad1396	Tap water

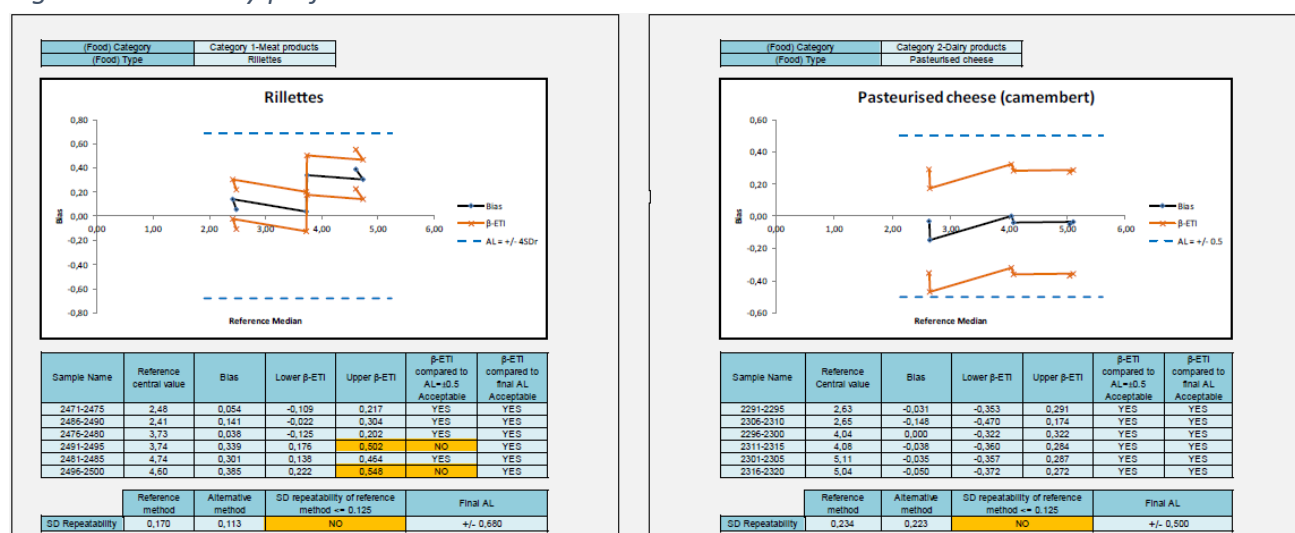
3.2.2. Calculation and interpretation

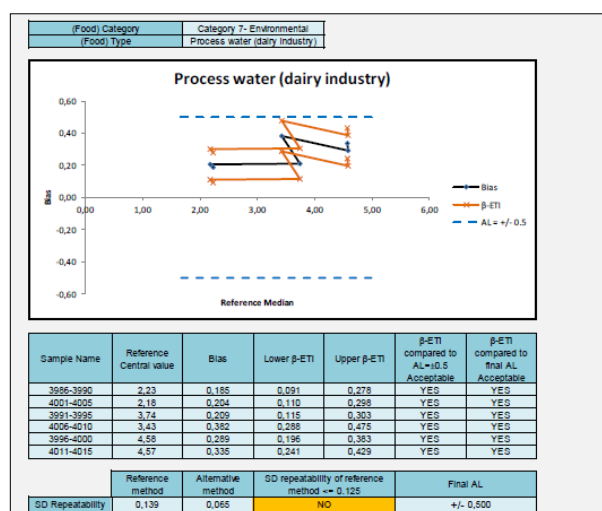
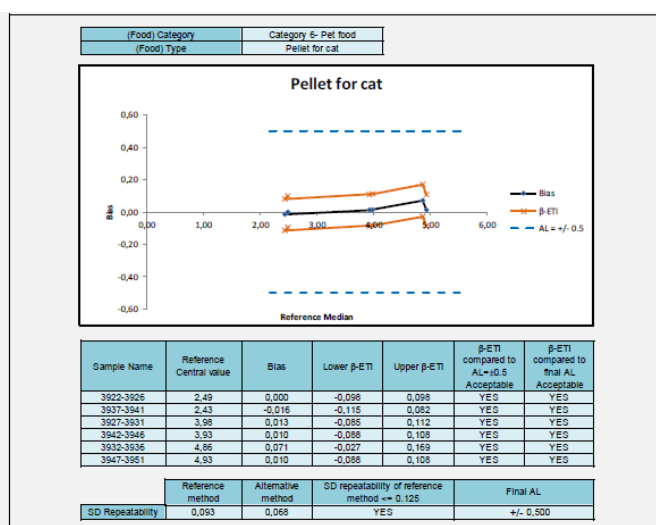
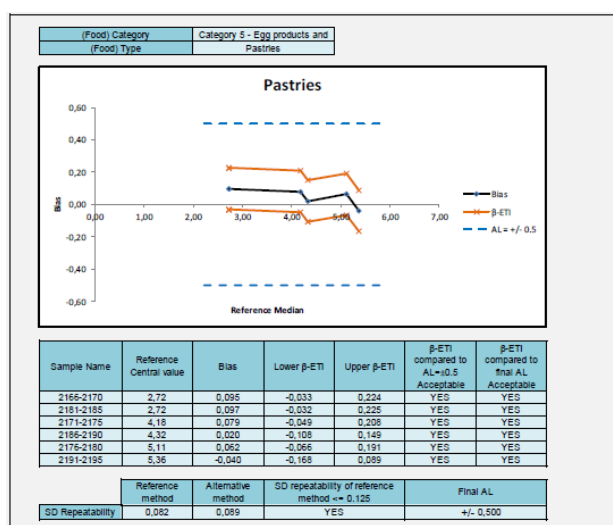
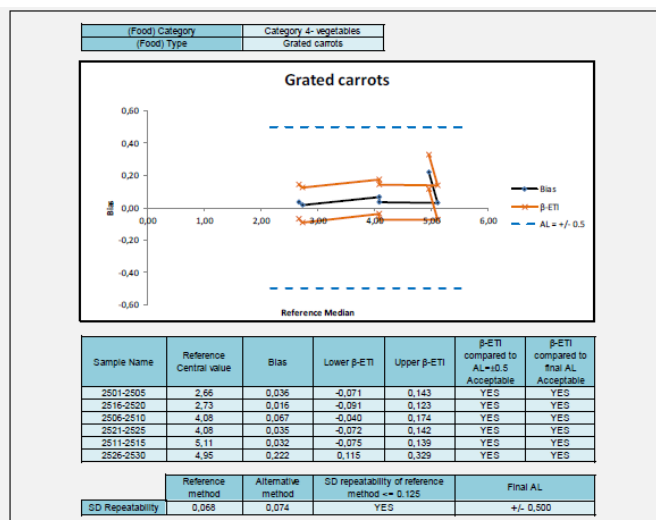
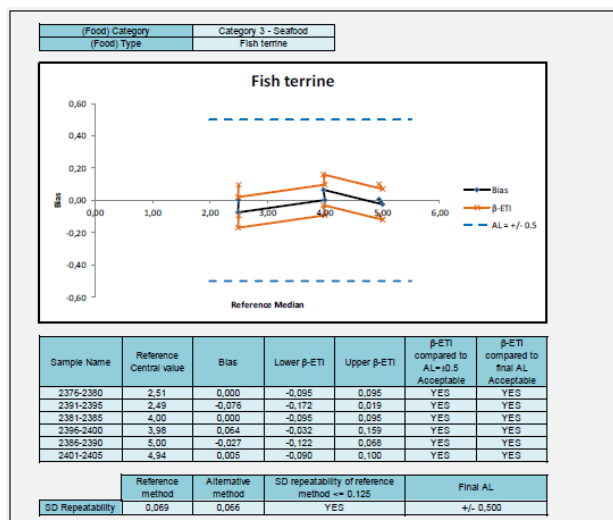
The raw data are provided in **Appendix E**. The summary tables (in log CFU/g) and calculations are provided in **Appendix F**. The statistical results and the accuracy profiles are provided Figure 10.

Statistical calculations were done according to the Excel spreadsheet named AP_calculation tool MCS 16140-2_clause 6-1-3-3 ver_31-07-2018 available at <http://standards.iso.org/iso/16140>.

The accuracy profiles are comprised within the Acceptability Limits fixed at $\pm 0,5$ log CFU for all the tested matrices, except for rillettes for which the AL value is ± 0.680 log CFU.

Figure 10: accuracy profiles





The accuracy profiles are comprised within the Acceptability Limits fixed at ± 0.5 log CFU for all the tested matrices, except for rillettes for which the AL value is ± 0.680 log CFU.

3.2.3. Conclusion

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

3.3. Inclusivity / exclusivity

3.3.1. Protocol

Inclusivity: combining all the studies, 50 *E. coli* strains were tested. 31 *E. coli* strains were tested in duplicate (previous validation studies, and 19 *E. coli* strains were tested in simPLICATE (renewal study 2021) using the Petrifilm Select *E. coli* tests, the TBX and PCA media.

Exclusivity: combining all the studies 30 non-target strains were tested. 21 strains were tested in duplicate and 9 in simPLICATE (renewal study 2021) using the Petrifilm Select *E. coli* tests, TBX and PCA media.

3.3.2. Results

The raw data are provided in Appendix F.

Inclusivity: among the 50 target strains tested, 7 strains gave atypical white colonies (*E. coli* CIP 43888, *E. coli* 12, *E. coli* 91, *E. coli* Ad1383, *E. coli* Ad1386, *E. coli* Ad1999 and *E. coli* Ad1391) on both the Petrifilm Select *E. coli* tests and TBX. Four of the *E. coli* strains (*E. coli* Ad1383, *E. coli* Ad1386, *E. coli* Ad1999 and *E. coli* Ad1391) were confirmed as *E. coli* O157 using latex test, this serotype is known to be β glucuronidase negative and explains the fact that white colonies were observed on both medium. This also explains the result observed for the *E. coli* CIP 43888 strain. Additionally, 2 strains (*E. coli* 142 et *E. coli* 144) gave pale blue colonies on TBX and one strain (*E. coli* 118) was not able to grow on this media.

Exclusivity: no growth was observed on Petrifilm Select *E. coli* tests with the non-target strains tested except for 6 strains: *Shigella flexneri* CIP 8248, *Escherichia fergusonii* Ad1381, *Enterobacter cloacae* Ad2851, *Cronobacter sakazakii* Ad2428, *Cronobacter condimentii* LMG2848 and *Citrobacter braakii* Ad2701 which showed atypical white colonies. Same result was observed on TBX for these strains. Four additional strains gave atypical white colonies (*Citrobacter freundii* 23, *Citrobacter diversus* 140, *Klebsiella pneumoniae* 114 et *Buttiauxella agrestis* 115) while no growth was observed on Petrifilm Select *E. coli* tests.

These results show a higher selectivity of the NEOGEN Petrifilm SEC tests and could explain the positive bias observed for the relative trueness study.

Based on these results the NEOGEN Petrifilm Select *E. coli* method can be considered as specific and selective.

3.4. Practicability

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

Storage conditions, shelf-life and modalities of utilization after first use	The storage conditions and the expiration data are mentioned on the package. The modalities of utilization are described in the technical data sheet.		
Time to result	Steps	Reference method	Alternative method
	Negative samples		
	Analysis	Day 0	Day 0
	Enumeration	Day 1	Day 1
	Presumptive positive or positive results		
	Analysis	Day 0	Day 0
	Enumeration	Day 1	Day 1
Common step with the reference method	Initial suspension preparation		

The negative and positive results are available in one day for both the alternative and the reference methods.

4. Interlaboratory study

4.1. Organization of the study

The results of the inter-laboratory study run in January 2000 with pasteurized half-skimmed milk inoculated with *Escherichia coli* 94 were interpreted according to the EN ISO 16140-2:2016 standard using the 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).

14 collaborators were involved in the study.

4.2. Control of the experimental parameters

4.2.1. Sample stability

In order to evaluate the *Escherichia coli* strain behaviour during transport, bacterial counts were done at different times, i.e. inoculation time, after 24 h and 48 h of storage at 2°C. Results are reported in Table 9.

Table 9: *E. coli* count with the ISO 16649-2 method

	Level 1		Level 2		Level 3	
	Petrifilm Select <i>E. coli</i>	NF ISO 16649-2	Petrifilm Select <i>E. coli</i>	NF ISO 16649-2	Petrifilm Select <i>E. coli</i>	NF ISO 16649-2
Day 0	68	72	480	630	4 000	5 500
	59	69	470	680	6 200	2 700
Day 1	66	65	560	660	4 300	6 400
	60	35	570	680	5 200	5 600
Day 2	71	62	650	650	7 500	6 000
	62	65	640	610	6 100	7 300

No evolution was observed during storage for 48 h at 3°C ± 2°C.

4.2.2. Logistic conditions

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

Table 10: sample temperatures at receipt

Laboratories	Temperature measured at receipt (°C)	Receipt date	Analysis date
A	1,4	Day 1	Day 1
B	1,5	Day 2	Day 2
C	4,3	Day 1	Day 1
D	2,0	Day 1	Day 1
E	3,7	Day 1	Day 1
F	0,8	Day 1	Day 1
G	3,0	Day 1	Day 1
H	1,2	Day 1	Day 1
I	0,7	Day 1	Day 1
J	1,4	Day 2	Day 2
K	3,8	Day 1	Day 1
L	1,1	Day 1	Day 1
M	4,6	Day 1	Day 1
N	1,0	Day 1	Day 1

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

Note that two labs (B and J) received their samples at Day 2

4.2.3. Results analysis

The raw data are given in Appendix G.

4.2.3.1. Results obtained by the expert laboratory

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

Table 11: expert laboratory results.

Level (log CFU/ml)	Reference method	Alternative method
L0 (0)	0 0	0 0
L1(1 to 2)	1.86 1.81	1.84 1.81
L2 (2 to 3)	2.64 2.68	2.74 2.65
L3 (3 to 4)	3.38 3.60	3.81 3.73

4.2.3.2. Results obtained by the collaborators

Samples were sent to 14 collaborators.

- **Mesophilic aerobic microflora**

The mesophilic aerobic microflora was done on the matrix with ISO 4833 method. The results varied from 50 to 600 CFU/ml.

- **E coli enumeration**

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

Table 12: summary of data (CFU/g)

Collaborators	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	85	80	75	74	710	900	660	750	3500	5800	4600	5500
B	<1	<1	<1	<1	10	44	56	65	210	130	460	470	90	96	4200	3700
C	<1	<1	<1	<1	73	65	69	65	440	480	550	450	2400	4000	6400	5400
D	<1	<1	<1	<1	70	67	70	56	550	450	470	520	7400	4600	4700	5500
E	<1	<1	<1	<1	65	70	60	69	580	510	470	520	4300	4800	4400	5200
F	<1	<1	<1	<1	40	59	77	55	550	430	480	540	2300	3500	5500	4400
G	<1	<1	<1	<1	43	50	73	71	100	80	760	610	1500	40	4700	7000
H	<1	<1	<1	<1	72	73	69	72	370	250	650	480	970	1000	5500	4700
I	<1	<1	<1	<1	65	74	70	52	860	730	660	590	6000	6700	5900	6100
J	<1	<1	<1	<1	65	75	66	64	540	560	890	680	3100	3900	5000	6800
K	<1	<1	<1	<1	59	65	59	70	440	530	520	560	2300	2700	5300	5200
L	<1	<1	<1	<1	70	72	85	55	530	530	530	90	2000	2000	5400	5400
M	<1	<1	<1	<1	77	81	69	73	720	790	570	570	7700	6900	3500	5800
N	<1	<1	<1	<1	77	73	57	75	260	210	660	420	2600	1300	3600	5800

Table 13: summary of data (log CFU/g)

Collaborators	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	<0	<0	<0	<0	1,929	1,903	1,875	1,869	2,851	2,954	2,820	2,875	3,544	3,763	3,663	3,740
B	<0	<0	<0	<0	1,000	1,643	1,748	1,813	2,322	2,114	2,663	2,672	1,954	1,982	3,623	3,568
C	<0	<0	<0	<0	1,863	1,813	1,839	1,813	2,643	2,681	2,740	2,653	3,380	3,602	3,806	3,732
D	<0	<0	<0	<0	1,845	1,826	1,845	1,748	2,740	2,653	2,672	2,716	3,869	3,663	3,672	3,740
E	<0	<0	<0	<0	1,813	1,845	1,778	1,839	2,763	2,708	2,672	2,716	3,633	3,681	3,643	3,716
F	<0	<0	<0	<0	1,602	1,771	1,886	1,740	2,740	2,633	2,681	2,732	3,362	3,544	3,740	3,643
G	<0	<0	<0	<0	1,633	1,699	1,863	1,851	2,000	1,903	2,881	2,785	3,176	1,602	3,672	3,845
H	<0	<0	<0	<0	1,857	1,863	1,839	1,857	2,568	2,398	2,813	2,681	2,987	3,000	3,740	3,672
I	<0	<0	<0	<0	1,813	1,869	1,845	1,716	2,934	2,863	2,820	2,771	3,778	3,826	3,771	3,785
J	<0	<0	<0	<0	1,813	1,875	1,820	1,806	2,732	2,748	2,949	2,833	3,491	3,591	3,699	3,833
K	<0	<0	<0	<0	1,771	1,813	1,771	1,845	2,643	2,724	2,716	2,748	3,362	3,431	3,724	3,716
L	<0	<0	<0	<0	1,845	1,857	1,929	1,740	2,724	2,724	2,724	1,954	3,301	3,301	3,732	3,732
M	<0	<0	<0	<0	1,886	1,908	1,839	1,863	2,857	2,898	2,756	2,756	3,886	3,839	3,544	3,763
N	<0	<0	<0	<0	1,886	1,863	1,756	1,875	2,415	2,322	2,820	2,623	3,415	3,114	3,556	3,763

Note that collaborator J proceeded to the enumeration of the TBX plates after 72 h incubation of the plates at 44°C instead of 48 h.

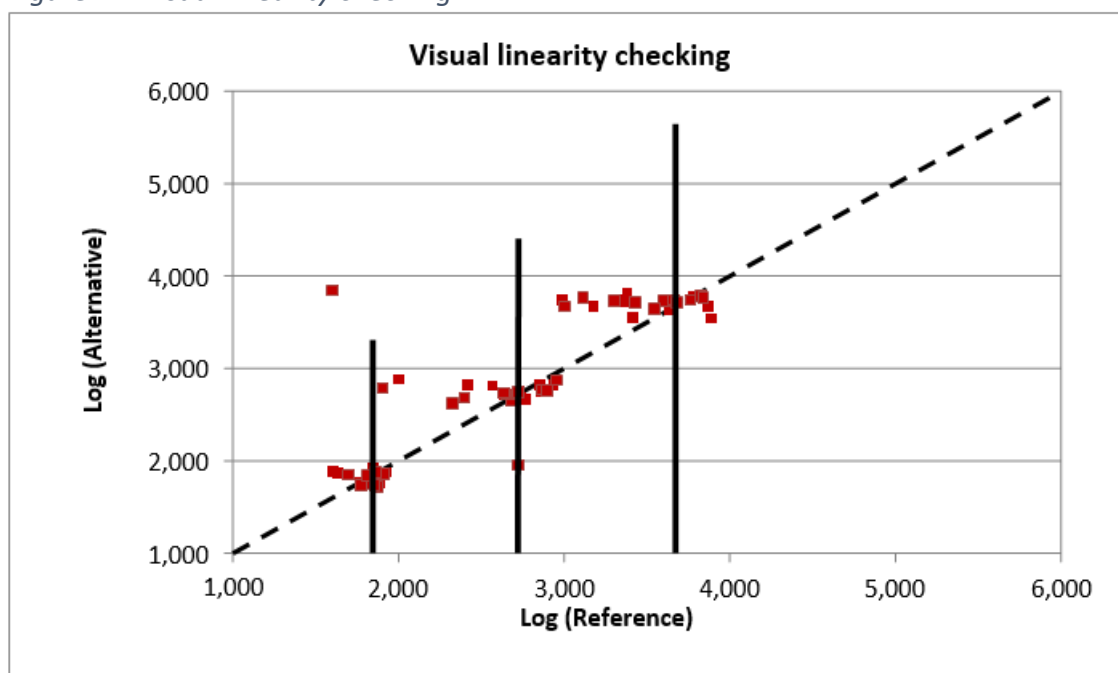
Finally, the results from 12 collaborators were taken into account for interpretation. Results from collaborators B and J were removed.

4.2.4. Calculation and interpretation

4.2.4.1. Visual linearity checking

Figure 11 shows the data points after log10 transformation. The visual inspection shows that the alternative method gives results, which are proportional to those of the reference method. The data are distributed closely to the first bisecting lines with a slope equal to 1.

Figure 11: visual linearity checking



4.2.4.2. Accuracy profil calculation

Statistical calculations were done according to the Excel spreadsheet named AP calculation tool_ILS_(clause_6-2-3_Calculations_summary_and_interpretation_of_data)_ver14-03-2016.xlsx available at <http://standards.iso.org/iso/16140>.

A summary of the parameters calculated is presented in Table 14.

Table 14: summary of the statistical test

Accuracy profile

Study Name

Petrifilm SEC

Date

2001

Coordinator

Free text

Tolerance probability (beta)

80%

80%

80%

Acceptability limit in log (lambda)

0,50

0,50

0,50

FAUX

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.

Levels	Alternative method		
	Low	Medium	High
Target value	1,824	2,639	3,419
Number of participants (K)	12	12	12
Average for alternative method	1,826	2,714	3,713
Repeatability standard deviation (s_R)	0,067	0,168	0,081
Between-labs standard deviation (s_L)	0,000	0,050	0,000
Reproducibility standard deviation (s_R)	0,067	0,176	0,081
Corrected number of dof	22,957	22,642	22,957
Coverage factor	1,347	1,350	1,347
Interpolated Student t	1,320	1,320	1,320
Tolerance interval standard deviation	0,0686	0,1794	0,0825
Lower TI limit	1,736	2,477	3,604
Upper TI limit	1,916	2,950	3,822
Bias	0,002	0,074	0,294
Relative Lower TI limit (beta = 80%)	-0,089	-0,163	0,185
Relative Upper TI limit (beta = 80%)	0,092	0,311	0,403
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	0,320		

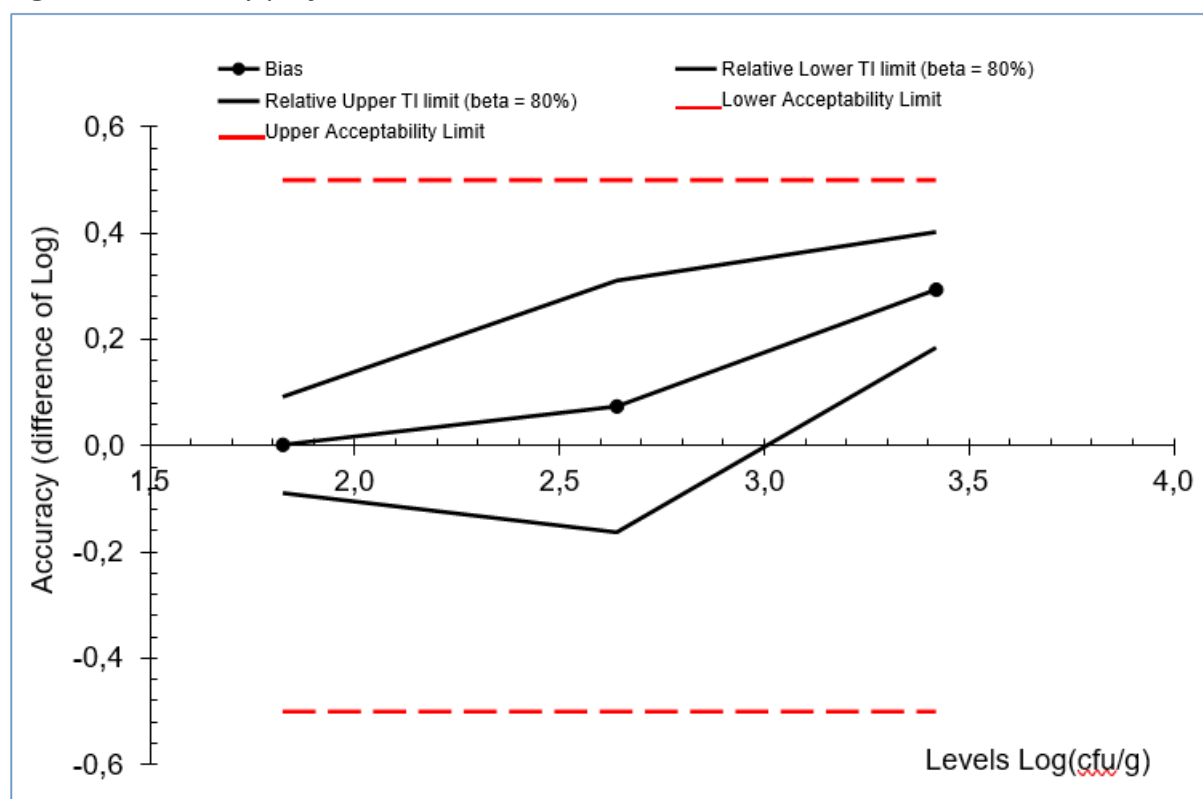
Reference method		
Low	Medium	High
12	12	12
1,824	2,639	3,419
0,043	0,063	0,339
0,070	0,264	0,335
0,082	0,271	0,476
14,376	11,604	17,839

FAUX

Select ALL blue lines to draw the accuracy profile as illustrated in the worksheet "Graph Profile"

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

Figure 12: accuracy profile



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

In those conditions, the results obtained with the alternative method are not statistically different than those obtained with the reference method.

4.3. Conclusion of the interlaboratory study

As the values for the β -ETI fall within the Acceptability Limits for all levels of contamination, the alternative method is regarded as being equivalent to the reference method.

5. Conclusion of the initial validation

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

- 259 samples were tested in the relative trueness study providing 152 interpretable results by both methods, which clearly satisfied the required criteria for quantitative method comparison per ISO 16140-2;
- The observed profiles are comprised within the AL.
- The inclusivity and exclusivity testing shows satisfying results.
- The quality assurance parameters were verified (i.e. targeted levels, strain stability, logistic conditions, analyses), confirming that the inter-laboratory study was conducted in appropriate conditions.
- The data interpretations were done according to the EN ISO 16140- 2/A1 (2024). For the three contamination levels, the alternative method is accepted as equivalent to the reference method.

Based on the results obtained for the method comparison study and the inter-laboratory study, the alternative method is considered equivalent to the reference method.

The data and their interpretation produced fulfil the requirements of both the EN ISO 16140-2/A1 (2024) standard and the version 12 of the Requirements regarding comparison and interlaboratory studies for implementation of the standard EN ISO 16140-2.

6. Extension study: interpretation with one plate and one dilution (2025)

6.1. Relative trueness study

6.1.1. Number and nature of the samples

In total, seven food categories were tested.

A total of 259 samples were thus analyzed and 152 exploited.

The distribution of the samples is presented in Table 15.

Table 15: number and nature of the samples analyzed

Category		Type		Number of tested samples	Number of samples with interpretable results by both methods
1	Meat products	a	Raw meat	25	10
		b	Delicatessen	20	8
		c	RTE, RTRH	9	5
		Total		54	23
2	Dairy products	a	Milk	11	6
		b	Cheeses	17	8
		c	Soft cheese, fermented products, cream ...	6	6
		Total		34	20
3	Seafood	a	Raw seafood	20	6
		b	Processed	6	5
		c	RTE, RTRH	5	5
		Total		31	16
4	Vegetables	a	Raw	15	11
		b	Processed	17	11
		c	RTE, RTRH	6	6
		Total		38	28
5	Egg products and composite food	a	Egg products	25	14
		b	Pastries	5	5
		c	Composite meals	11	7
		Total		41	26
6	Pet food	a	Low moisture products	9	6
		b	Pâtés, terrines	6	6
		c	Raw material	11	7
		Total		26	19
7	Environmental samples	a	Surfaces	12	6
		b	Process water	12	7
		c	Dusts	11	7
		Total		35	20
All categories				259	152

6.1.2. Artificial contamination of the samples

All the samples tested for the initial validation study were naturally contaminated. Artificial contaminations, using spiking or seeding protocols, were applied for pet food and environmental categories extension study and for renewal study.

The inoculated strains, the contamination protocols, the injured protocols of the inoculated cells and the injury evaluation are provided in Appendix I. Injury efficiency was evaluated by enumerating the pure culture on selective (TBX) and non-selective (PCA) agars

Combining all the studies, 182 non-spiked samples and 77 spiked samples were tested; 152 gave interpretable results by both methods. 53% of the samples giving interpretable results by both methods were naturally contaminated.

6.1.3. Results

The data are classified in three categories:

- 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 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/A1:2024, 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.

Raw results are shown in Appendix J.

The samples, which were not used in the calculations, are provided in Table 16.

Table 16: samples which were not used in the calculations

Category	Type	#	Sample	ISO log CFU/g	MA log CFU/g
Meat products	a	A5	Frozen breast of chicken	1,57	1,70
	a	A6	Frozen breast of chicken	1,48	1,95
	a	A10	Meat cutlet	1,18	1,30
	a	A31	chicken	1,50	1,78
	a	A32	Cockerel	0,83	1,70
	a	A33	Chicken legs	1,18	2,13
	a	A90	Cockerel	1,68	2,32
	a	A91	Chicken cutlet	0,92	1,00
	a	A113	Turkey cutlet	1,39	1,70
	a	A111	Guineafowl	0,00	2,19
	a	A19	Pork tongue	0,00	1,78
	a	A24	Chicken gizzards	0,00	1,70
	a	A27	Chicken heart	0,00	1,95
	a	A30	Cockerel	0,00	2,13
	a	A114	Chicken cutlet	0,00	0,00
	b	A55	Sausage meat preparation	0,83	1,00
	b	A57	Chipolatas	0,66	1,60
	b	A66	Merguez	1,03	1,30
	b	A68	Toulouse sausages	0,92	1,30
	b	A75	Chipolatas with aromatic herbs	0,92	1,48
	b	A58	Chipolatas with aromatic herbs	1,00	1,48
	b	A2	Toulouse sausages	1,00	1,00
	b	A40	Sausage meat	1,00	1,00
	b	A54	Sausage meat preparation	1,00	1,00
	b	A56	Sausage meat preparation	1,00	1,00
	b	A67	Sausage meat preparation	1,00	1,00
	b	A69	Chipolatas	1,00	1,00
	c	A3	Stuffed roast	1,00	1,70
	c	A39	Veal olive	1,25	1,95
	c	A73	Chicken gizzards	0,83	1,00
	c	A38	Veal olive	1,00	1,70
Dairy products	a	A62	Raw milk	0,11	0,48
	a	A63	Raw milk	0,60	0,7
	a	A85	Raw milk	1,10	1,26
	a	A87	Raw milk	1,78	1
	a	A88	Raw milk	0,58	0,66
	b	A7	Bethmal	0,85	1,70
	b	A13	Crottin de chavignol	1,42	1,48
	b	A59	Camembert	1,67	1,60
	b	A64	Reblochon	0,85	1,00
	b	A21	Crottin de chavignol	1,00	1,00
	b	A23	Tomme du nevet	1,00	1,00
	b	A46	Munster	1,00	1,00
Seafood	b	A98	Ewe's raw milk cheese	0,00	0,00
	b	A61	Bethmal	1,00	0,00
	a	A25	Frozen sardines	1,15	1,30
	a	A152	Mackerel	1,24	1,30
	a	A153	Cockles	1,24	1,30
	a	A154	Mussels	0,83	1,00
	a	A35	Frozen shells	0,00	0,00
	a	A127	Cockles	0,00	1,30
	a	A128	Cockles	0,00	0,00
	a	A133	Sea almond	0,00	0,00
	a	A134	Clams	0,00	0,00
	a	A135	Cockles	0,00	0,00
	a	A136	Oysters	0,00	0,00
	a	A145	Clams	0,00	0,00
	a	A146	Pilchards	0,00	0,00
	a	A147	Mackerel	0,00	0,00
	b	A132	Smoked salmon	0,00	0,00

Category	Type	#	Sample	ISO log CFU/g	MA log CFU/g
Seafood	a	A25	Frozen sardines	1,15	1,30
	a	A152	Mackerel	1,24	1,30
	a	A153	Cockles	1,24	1,30
	a	A154	Mussels	0,83	1,00
	a	A35	Frozen shells	0,00	0,00
	a	A127	Cockles	0,00	1,30
	a	A128	Cockles	0,00	0,00
	a	A133	Sea almond	0,00	0,00
	a	A134	Clams	0,00	0,00
	a	A135	Cockles	0,00	0,00
	a	A136	Oysters	0,00	0,00
	a	A145	Clams	0,00	0,00
	a	A146	Pilchards	0,00	0,00
	a	A147	Mackerel	0,00	0,00
	b	A132	Smoked salmon	0,00	0,00
Vegetables	a	A131	Red peppers	1,29	1,60
	a	A65	Red pepper	1,00	1,60
	a	A70	Soya bean sprouts	0,00	0,00
	a	A129	Buckwheat seeds	0,00	0,00
	b	A97	Frozen spinaches	1,51	2,20
	b	A106	Frozen vegetable preparation for couscous	1,09	1,48
	b	A130	Frozen spinaches	0,00	1,60
	b	A48	Frozen spinach puree	0,00	0,00
	b	A107	Frozen sti-fry vegetable assortment	0,00	1,00
Egg product and composite food	b	A109	Frozen vegetable preparation for ratatouille	0,00	0,00
	a	A115	Liquid egg product	1,57	1,60
	a	A122	Liquid egg product	1,50	1,30
	a	A116	Liquid egg product	0,94	1,60
	a	A117	Liquid egg product	1,36	1,30
	a	A118	Liquid egg product	1,09	1,60
	a	A119	Liquid egg product	1,24	1,30
	a	A120	Liquid egg product	1,39	1,78
	a	A121	Liquid egg product	1,24	1,48
	a	A123	Liquid egg product	1,15	1,48
	a	A124	Liquid egg product	1,18	1,30
	a	A126	Liquid egg product	1,29	1,60
	c	A41	Toasted cheese sandwich with ham	1,44	1,60
	c	A9	Dehydrated chicken cream	0,00	0,00
	c	3976	Paella with meat and seafood	3,00	5,40
Pet food	c	A36	Frozen goat's milk cheese pizza	0,00	0,00
	a	4718	Pellets for dog (poultry)	1,80	0,00
	a	4290	Pellets for cat (beef/chicken meat)	2,04	1,30
	a	4719	Pellets for cat (poultry)	1,00	1,00
	c	3672	Poultry flour	0,00	0,00
	c	3673	Lamb flour	0,00	0,00
	c	3674	Animal flour	0,00	0,00
	c	3675	Animal flour	0,00	0,00

Category	Type	#	Sample	ISO log CFU/g	MA log CFU/g
Environmental samples	a	3906	Wipe (cheese industry)	0,00	1,00
	a	4011	Swab after cleaning (fish industry)	0,00	0,00
	a	4012	Swab after cleaning (fish industry)	0,00	0,00
	a	4013	Wipe after cleaning (fish industry)	0,00	0,00
	a	4014	Wipe after cleaning (fish industry)	0,00	0,00
	a	4015	Wipe after cleaning (fish industry)	0,00	0,00
	b	4006	Process water (fish industry)	0,00	0,00
	b	4007	Process water (fish industry)	0,00	0,00
	b	4008	Process water (fish industry)	0,00	0,00
	b	4009	Process water (fish industry)	0,00	0,00
	b	4010	Process water (fish industry)	0,00	0,00
	c	3676	Dusts from egg industry	0,00	0,00
	c	3677	Dusts	0,00	0,00
	c	3678	Dusts from dairy industry	0,00	2,08
	c	3679	Dusts from dairy industry	0,00	0,00

Green cells: values <4 CFU/Petri dish. Yellow cells: values lower and higher than the quantification limits

Three kinds of results are not considered as part of the statistical calculations:

- Those expressed with less than 4 colonies per Petri dish for at least one method,
- those lower or higher than the quantification limits,
- Undetermined results.

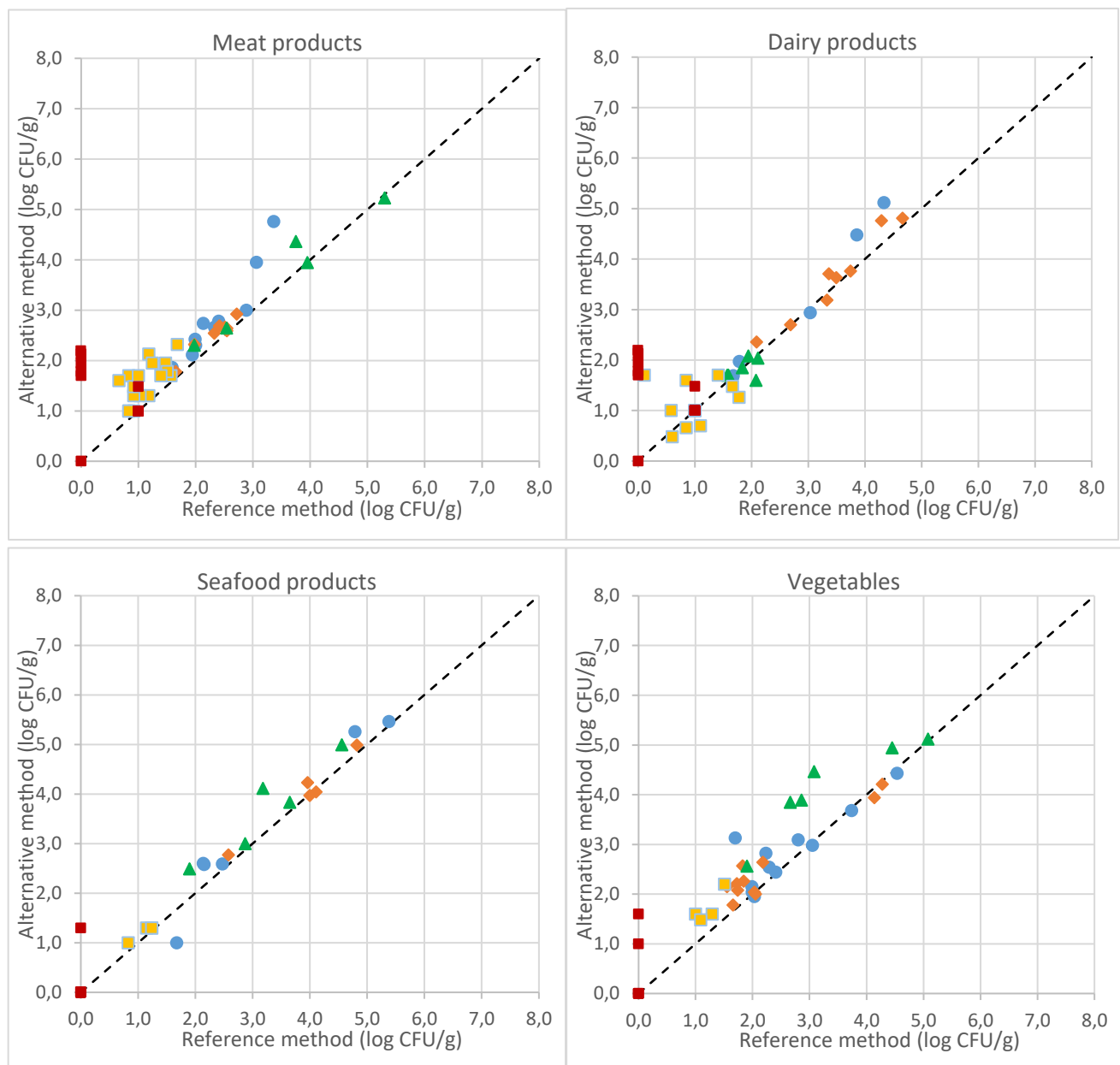
All results are presented in scatter plots per category:

- Figure 13: scatter plots for each category,
- Figure 14: scatter plots for all categories,

On scatter plots:

- Each type of food is differentiated per type on individual category scatter plots: blue circle: type a / orange diamond: type b / green triangle: type c
- Results expressed with less than 4 colonies per Petri dish for at least one method are indicated by a yellow square,
- Results lower or higher than the quantification limits for one method are indicated by a red square. The value of these results is corrected according to the EN ISO 16140-2/A1:20124 requirements.

Figure 13: scatter plots of reference-method versus alternative-method results for each category



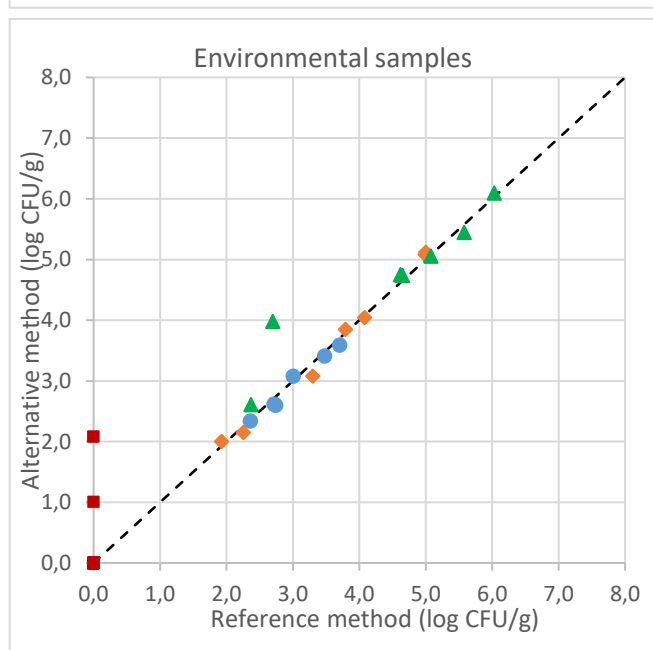
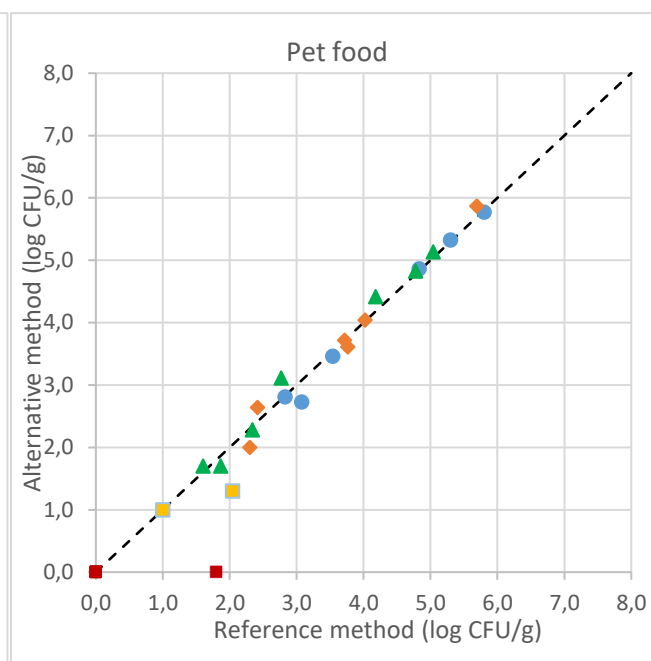
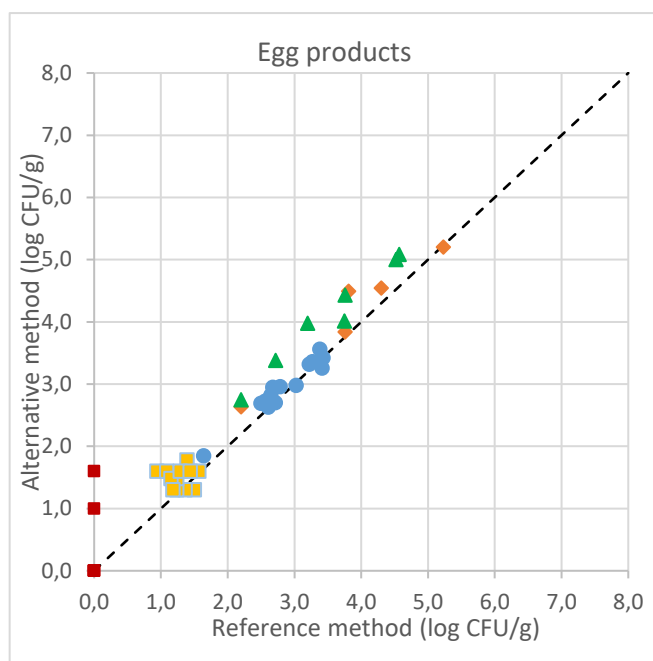
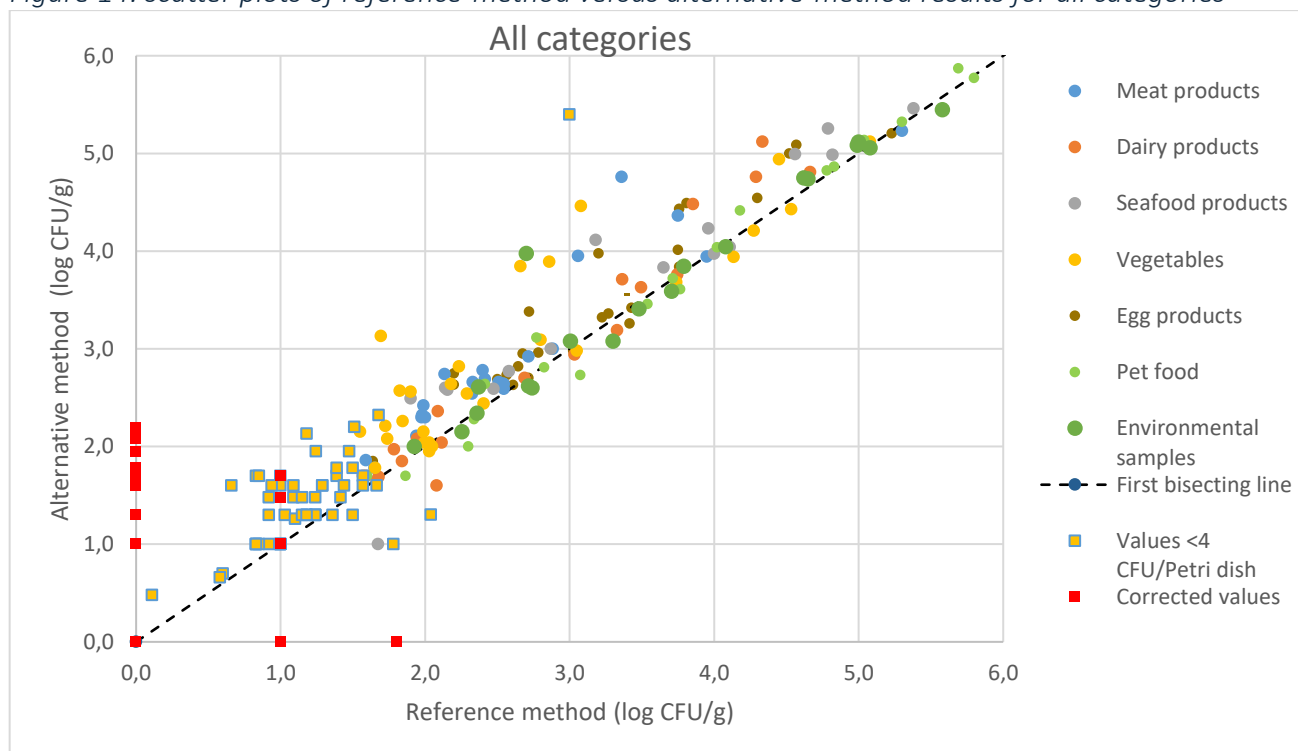


Figure 14: scatter plots of reference-method versus alternative-method results for all categories



6.1.4. Statistical interpretation

The results obtained are analyzed using the Bland-Altman method.

Statistical calculations are presented in Appendix K, as well as the results excluded from the statistical analysis per category.

Table 17 presents the summary of the average differences and standard deviation differences per category and for all categories.

Table 17: values for the Bland-Altman difference plot

Category	n	Standard deviation differences	Bias	Lower Confidence Limit	Upper Confidence Limit
Meat products	23	0.32	0.32	-0.36	1.00
Dairy products	20	0.28	0.13	-0.47	0.73
Seafood products	16	0.35	0.23	-0.54	1.00
Vegetables	28	0.46	0.36	-0.59	1.32
Egg products and composite	26	0.26	0.26	-0.29	0.80
Pet food	19	0.17	0.01	-0.37	0.39
Environmental samples	20	0.31	0.06	-0.60	0.72
All cat.	152	0.34	0.21	-0.47	0.89

Overall, the average deviation is equal to 0.21, showing a positive bias between the NEOGEN Petrifilm SEC method and the reference method. The average difference varies from 0.01 log CFU/g (pet food) to 0.36 CFU/g (vegetables products).

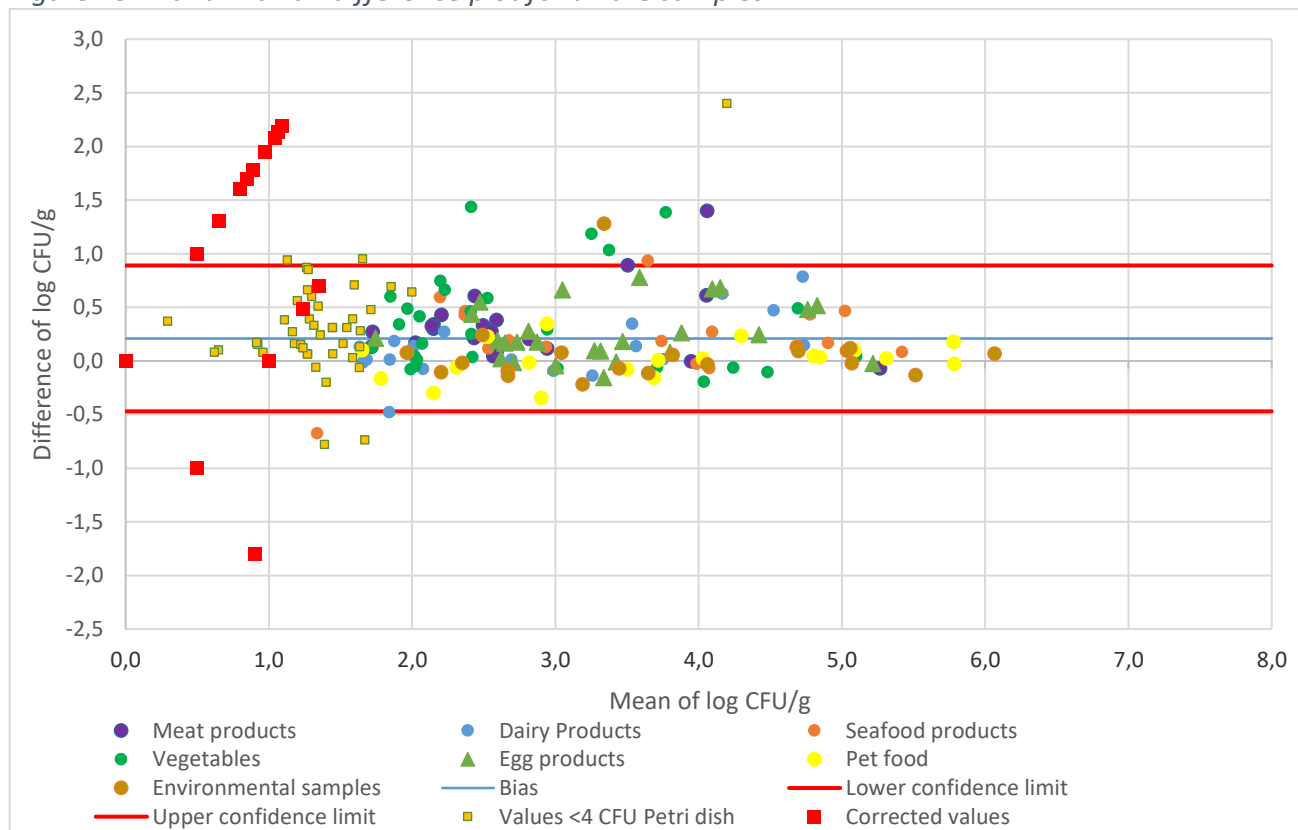
The upper and lower limits of the 95% confidence interval range from 0.89 to -0.47.

The Bland-Altman difference plots are presented in Figure 15 for all categories.

As on scatter plots:

- Each category is differentiated by a specific colour,
- Results expressed with less than 4 colonies per Petri dish for at least one method are indicated by a yellow square,
- Results lower or higher than the quantification limits for one method are indicated by a red square. The value of these results is corrected according to the EN ISO 16140-2/A1:2024 requirements.

Figure 15: Bland-Altman difference plot for all the samples.



• Observations:

Samples for which the average difference is lower or higher than the confidence limits are listed in Table 18.

Table 18: values outside the confidence limits on the Bland-Altman difference plot (green cells: values <4 CFU/Petri dish, yellow cells: values lower and higher than the quantification limits, blue: values higher than the confidence limits, red: values lower than the quantification limits)

Category	Type	#	Matrix	ISO	Alternative	Mean	Difference	Confidence limits
				log CFU/g	log CFU/g			
Meat products	a	A95	Chicken liver	3,36	4,76	4,06	1,40	LCL: -0,47 UCL: 0,89
	a	A33	Chicken legs	1,18	2,13	1,66	0,95	
	a	A111	Guineafowl	0,00	2,19	1,095	2,19	
	a	A19	Pork tongue	0,00	1,78	0,89	1,78	
	a	A24	Chicken gizzards	0,00	1,70	0,85	1,70	
	a	A27	Chicken heart	0,00	1,95	0,975	1,95	
	a	A30	Cockerel	0,00	2,13	1,065	2,13	
	b	A57	Chipolatas	0,66	1,60	1,13	0,94	
Dairy products	c	A101	Fermented milk	2,08	1,60	1,84	-0,48	
	a	A87	Raw milk	1,78	1	1,39	-0,78	
	b	A61	Bethmal	1,00	0,00	0,50	-1,00	
Seafood products	a	A150	Pilchards	1,68	1,00	1,34	-0,68	
	c	2697	Salmon steak from Scotland	3,18	4,11	3,65	0,93	
	a	A127	Cockles	0,00	1,30	0,65	1,30	
Vegetables	a	A76	Cabbage	1,70	3,13	2,41	1,44	
	c	2700	Potato purée	2,66	3,85	3,25	1,19	
	c	2701	RTE radish	2,86	3,89	3,38	1,03	
	c	2702	RTE carrot	3,08	4,46	3,77	1,38	
	b	A130	Frozen spinaches	0,00	1,60	0,8	1,60	
	b	A107	Frozen sti-fry vegetable assortment	0,00	1,00	0,5	1,00	
Egg products & composite	c	3976	Paella with meat and seafood	3,00	5,40	4,20	2,40	
Pet food	a	4718	Pellets for dog (poultry)	1,80	0,00	0,90	-1,80	
	a	4290	Pellets for cat (beef/chicken meat)	2,04	1,30	1,67	-0,74	
Environmental samples	c	4303	Vacuum dusts (from dairy industry)	2,7	3,98	3,34	1,28	
	a	3906	Wipe (cheese industry)	0,00	1,00	0,5	1,00	
	c	3678	Dusts from dairy industry	0,00	2,08	1,04	2,08	

Green cells: values <4 CFU/Petri dish. Yellow cells: values lower and higher than the quantification limits

Twenty-six samples are out of the confidence limits:

- 17 concern corrected values or samples with less than 4 CFU/Petri dish,
- 6 are lower than the lower confidence limit,
- 20 are higher than the upper confidence limit.

This large number of samples above the upper confidence limit associated with a positive method bias, reflects a better recovery of *E. coli* with the Petrifilm SEC plate.

6.1.5. Conclusion

The relative trueness study of the alternative method is satisfying for all categories tested even if a positive bias is observed for the NEOGEN Petrifilm Select *E. coli* method.

Table 19 summarizes the results obtained with the One Plate approach compared to the data already validated from 2 plates or 2 successive dilutions.

Table 19: summary One Plate versus initial validation

One Plate	22 h incubation time						Two Plates	22 h incubation time				
	Category	n	SD	Bias	LCL	UCL		n	SD	Bias	LCL	UCL
	Meat products	23	0.32	0.32	-0.36	1.00		23	0,32	0,31	-0,37	1,00
	Dairy products	20	0.28	0.13	-0.47	0.73		20	0,32	0,13	-0,54	0,81
	Seafood products	16	0.35	0.23	-0.54	1.00		16	0,33	0,24	-0,50	0,97
	Fruit & vegetables products	28	0.46	0.36	-0.59	1.32		28	0,46	0,34	-0,61	1,29
	Egg products	26	0.26	0.26	-0.29	0.80		26	0,27	0,26	-0,3	0,82
	Pet food	19	0.17	0.01	-0.37	0.39		19	0,18	0,01	-0,38	0,4
	Environmental samples	20	0.31	0.06	-0.60	0.72		20	0,29	0,09	-0,54	0,72
	All cat.	152	0.34	0.21	-0.47	0.89		152	0,34	0,21	-0,46	0,89

6.2. Accuracy profiles

6.2.1. Protocols

Seven matrices were tested. A minimum of one type per category, and therefore 2 different batches, was selected, using 6 samples per type. 2 samples are 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.

The tested categories, types, matrices, and inoculated strains are provided in Table 20.

Table 20: matrix – strain pairs and inoculation protocols for the accuracy profile study

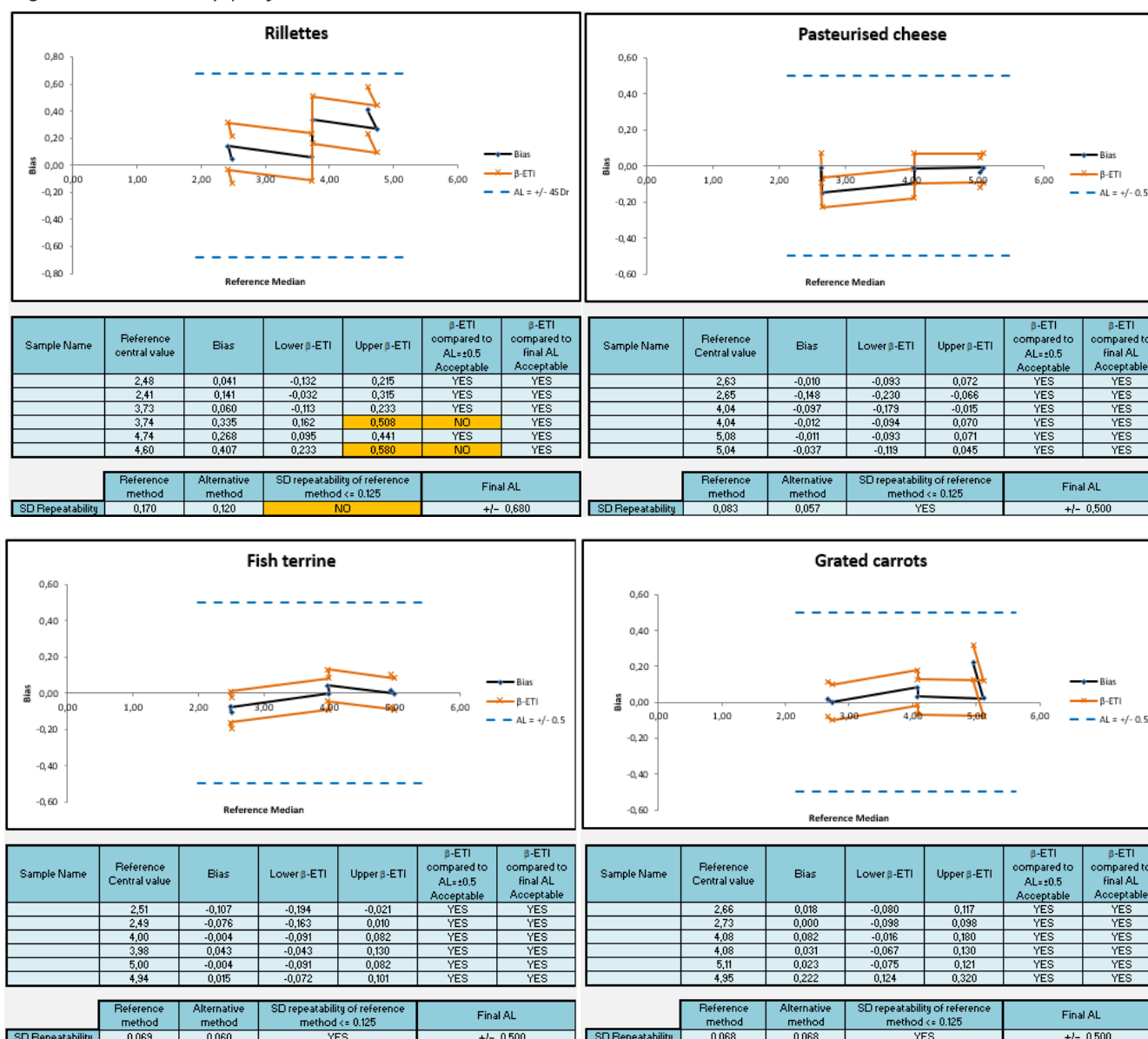
Category		Type	Matrix	Inoculated strain	Origin	Inoculation level (CFU/g)
1	Meat products	b- Delicatessen	Rillettes	<i>E. coli</i> 9	Goose rillettes	300 10 000 100 000
2	Dairy products	b- Cheese	Pasteurized cheese (Camembert)	<i>E. coli</i> 14	Raw milk	
3	Seafood	c- RTE, RTRH	Fish terrine	<i>E. coli</i> Ad228	Raw fish	
4	Vegetables	b- Processed	Grated carrots	<i>E. coli</i> 19	Grated carrots	
5	Egg products and composite food	b- Pastry	Pastry	<i>E. coli</i> 142	Liquid egg product	
6	Pet food	a- Low moisture product	Pellet for cat	<i>E. coli</i> 1	Pork meat	
7	Environmental samples	b- Process water	Process water	<i>E. coli</i> Ad1396	Tap water	

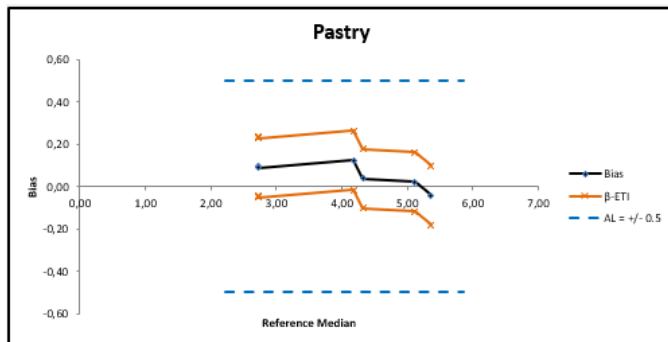
6.2.2. Results and interpretation

The raw data are provided in Appendix L. The summary tables (in log CFU/g) and calculations are provided in Appendix L. The statistical results and the accuracy profiles are provided Figure 16. Statistical calculations were done according to the Excel spreadsheet named AP calculation tool_MCS_(clause_6-1-3-3 calculation_and_interpretation_of_accuracy_profile_study) ver. 27-01-2015.xlsx available at <http://standards.iso.org/iso/16140>.

For the accuracy profiles of all the categories, the probability for the tolerance interval β is set at 80% and the acceptability limits at 0.5.

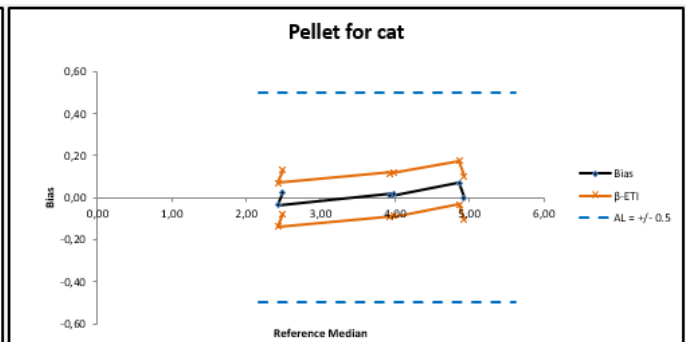
Figure 16: accuracy profiles





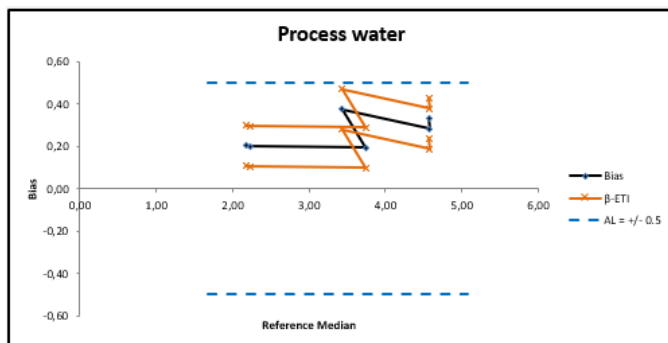
Sample Name	Reference Central value	Bias	Lower β -ETI	Upper β -ETI	β -ETI compared to AL ± 0.5 Acceptable	β -ETI compared to final AL Acceptable
	2,72	0,095	-0,045	0,235	YES	YES
	2,72	0,090	-0,050	0,230	YES	YES
	4,18	0,125	-0,015	0,265	YES	YES
	4,32	0,040	-0,101	0,180	YES	YES
	5,11	0,023	-0,117	0,163	YES	YES
	5,36	-0,040	-0,180	0,101	YES	YES

	Reference method	Alternative method	SD repeatability of reference method ≤ 0.125	Final AL
SD Repeatability	0,082	0,037	YES	+/- 0,500



Sample Name	Reference Central value	Bias	Lower β -ETI	Upper β -ETI	β -ETI compared to AL ± 0.5 Acceptable	β -ETI compared to final AL Acceptable
	2,49	0,027	-0,077	0,131	YES	YES
	2,43	-0,033	-0,137	0,071	YES	YES
	3,98	0,018	-0,086	0,122	YES	YES
	3,93	0,010	-0,094	0,114	YES	YES
	4,86	0,071	-0,033	0,175	YES	YES
	4,93	0,000	-0,104	0,104	YES	YES

	Reference method	Alternative method	SD repeatability of reference method ≤ 0.125	Final AL
SD Repeatability	0,093	0,072	YES	+/- 0,500



Sample Name	Reference Central value	Bias	Lower β -ETI	Upper β -ETI	β -ETI compared to AL ± 0.5 Acceptable	β -ETI compared to final AL Acceptable
	2,23	0,201	0,106	0,296	YES	YES
	2,18	0,204	0,109	0,299	YES	YES
	3,74	0,194	0,099	0,289	YES	YES
	3,43	0,375	0,280	0,470	YES	YES
	4,58	0,284	0,188	0,379	YES	YES
	4,57	0,335	0,240	0,430	YES	YES

	Reference method	Alternative method	SD repeatability of reference method ≤ 0.125	Final AL
SD Repeatability	0,139	0,066	NO	+/- 0,500

The accuracy profiles are comprised within the Acceptability Limits fixed at ± 0.5 log CFU for all the tested matrices, except for rillettes for which the AL value is ± 0.680 log CFU.

6.2.3. Conclusion

The observed profiles are comprised within the AL, or in the case of “rillettes” shows better recovery. All the accuracy profiles fulfill the performance criteria.

7. General conclusion of the extension study

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

152 samples were tested in the relative trueness study at 22 hours of incubation which clearly satisfied the required criteria for quantitative method comparison according to the EN ISO 16140-2/A1:2024.

The results obtained from interpretation carried out on a single dilution (or single plate) are equivalent to the reference method.

The observed profiles are comprised within the AL, or in the case of “rillettes” shows better recovery. All the accuracy profiles fulfill the performance criteria.

8. Extension study: reading by the Petrifilm Plate Reader Advanced (PPRA)

8.1. Relative trueness study

8.1.1. Number and nature of the samples

In total, five food categories, one pet food category and one environmental samples category were tested.

A total of 58 samples were thus analyzed and 44 exploited.

The distribution of the samples is presented in Table 21.

Table 21: number and nature of the samples analyzed

Category		Type		Analyzed samples	Exploited samples
①	Meat products	a	Raw meat	4	2
		b	Delicatessen	3	3
		c	RTE, RTH	3	1
		Total		10	6
②	Milk powders and dairy products	a	Milk	3	2
		b	Cheeses	2	2
		c	Soft cheese, fermented products, cream...	2	1
		Total		7	5
③	Seafood products	a	Raw seafood	3	2
		b	Processed	3	2
		c	RTE, RTH	2	2
		Total		8	6
④	Vegetables	a	Raw	2	2
		b	Processed	2	2
		c	RTE, RTH	3	3
		Total		7	7
⑤	Egg-products and composite foods	a	Egg products	2	2
		b	Pastries	3	2
		c	Composite meals	2	2
		Total		7	6
⑥	Pet food	a	Low moisture products	2	2
		b	Pâtés, terrine	2	2
		c	Raw material	4	4
		Total		8	8
⑦	Environmental samples	a	Surfaces (wipes, swabs...)	2	2
		b	Process water	4	2
		c	Dusts	5	2
		Total		11	6
All categories				58	44

8.1.2. Artificial contamination of the samples

For this comparison study, 16 samples were artificially contaminated among the 58 tested samples. The list of artificially contaminated samples and the details relating to inoculation are specified in Appendix M.

8.1.3. Results

The data are classified in three categories:

- Interpretable results with manual reading and automatic reading,
- Results with less than 4 colonies per plate with the manual and/or the automatic reading method 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/A1:2024, if any result (either manual or automatic 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.

Raw results are shown in **Appendix N**.

The samples, which were not used in the calculations, are provided in Table 22.

Table 22: samples which were not used in the calculations

Category	Type	#	Sample	Manual	PPRA	Manual	PPRA
				CFU/g	CFU/g	log CFU/g	log CFU/g
Meat products	a	2976970	Chicken leg	3000	<1000	3,48	3,00
	a	2976972	Beef	<10	<10	1,00	1,00
	c	2976973	Beef Bourguignon	<10	<10	1,00	1,00
	c	2976974	Chicken curry	<10	<10	1,00	1,00
Dairy products	a	2986175	Raw cow's milk	30	<10	1,48	1,00
	c	3005760	White cheese	10	10	1,00	1,00
Seafood	a	2986177	Saithe	<10	<10	1,00	1,00
	b	3005785	Cut tomato	<10	<10	1,00	1,00
Egg	b	3005762	Chocolate dessert	<10	<10	1,00	1,00
Environmental samples	b	2986178	Process water- poultry abattoir	<10	<10	1,00	1,00
	b	2986179	Dairy rinsing water	<10	<10	1,00	1,00
	c	2986180	Dairy dust	<10	<10	1,00	1,00
	c	2986181	Egg product dust	<10	<10	1,00	1,00
	c	3005793	Butcher's surface	<10	<10	1,00	1,00

Yellow case: corrected value. Green case: value <4 CFU/plate

Three kinds of results are not considered as part of the statistical calculations:

- Those expressed with less than 4 colonies per Petri dish for at least one method,
- those lower or higher than the quantification limits,
- Undetermined results.

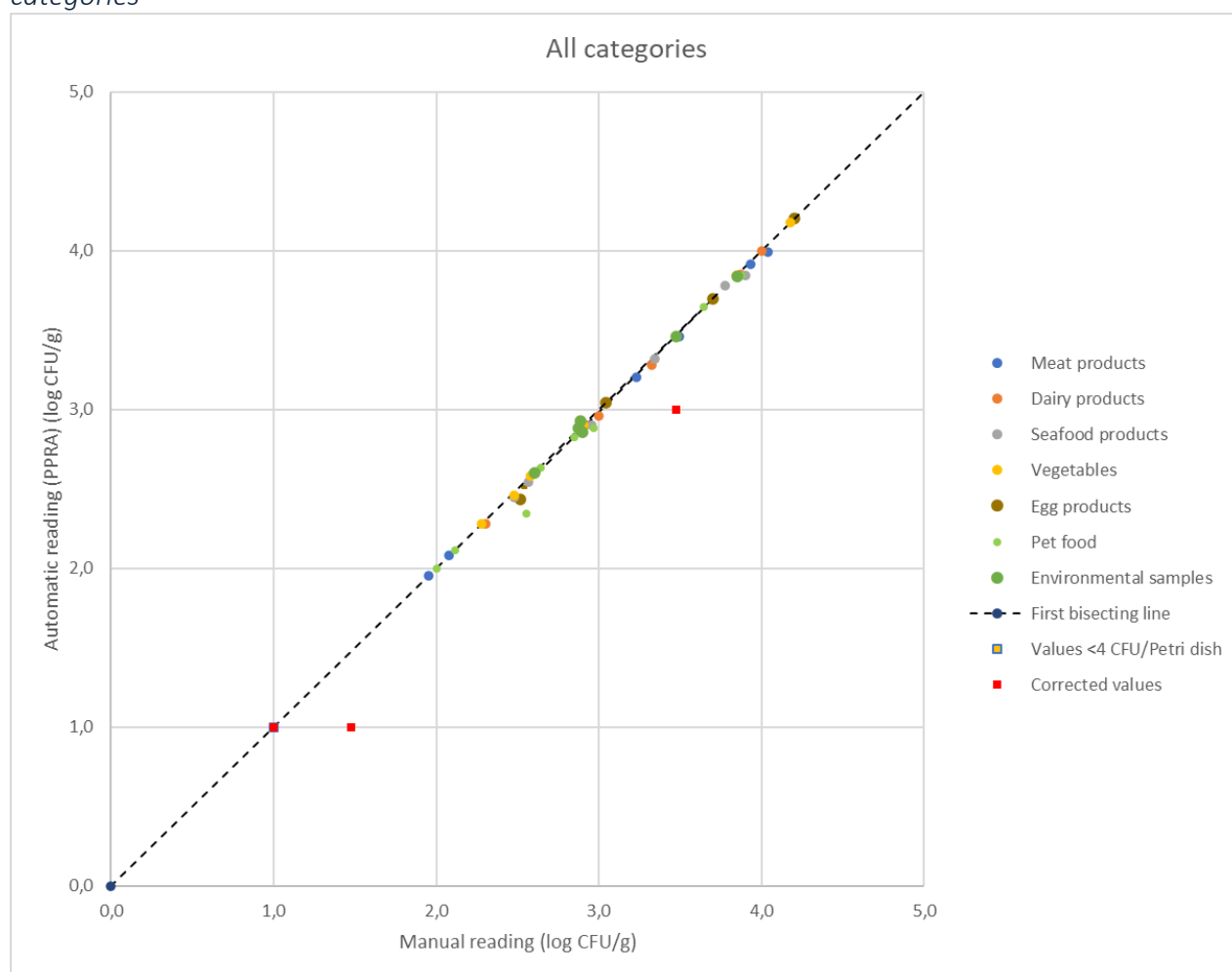
All results are presented in scatter plots per category:

- Figure 17: scatter plots for all categories.

On scatter plots:

- Results expressed with less than 4 colonies per Petri dish for at least one method are indicated by a yellow square,
- Results lower or higher than the quantification limits for one method are indicated by a red square. The value of these results is corrected according to the EN ISO 16140-2/A1:20124 requirements.

Figure 17: scatter plots of manual reading method versus automatic reading method results for all categories



8.1.4. Statistical interpretation

The results obtained are analyzed using the Bland-Altman method.

Statistical calculations are presented in Appendix N, as well as the results excluded from the statistical analysis per category.

Table 23 presents the average difference and standard deviation difference for each category and for all categories.

Table 23: values for the Bland-Altman difference plot

Category	n	Standard deviation differences	Bias	Lower Confidence Limit	Upper Confidence Limit
Meat products	6	0,02	-0,02	/	/
Dairy products	5	0,02	-0,02	/	/
Seafood products	6	0,02	-0,03	/	/
Vegetables	7	0,01	0,00	/	/
Egg products	6	0,04	-0,02	/	/
Pet food	8	0,07	-0,05	/	/
Environmental samples	6	0,03	0,00	/	/
All cat.	44	0,04	-0,02	-0,10	0,06

Overall, the average deviation is equal to -0.02, showing no significative bias between the automatic reading by PPRA and manual reading. The average difference varies from -0.05 log CFU/g (pet food) to 0.00 CFU/g (vegetables and environmental samples).

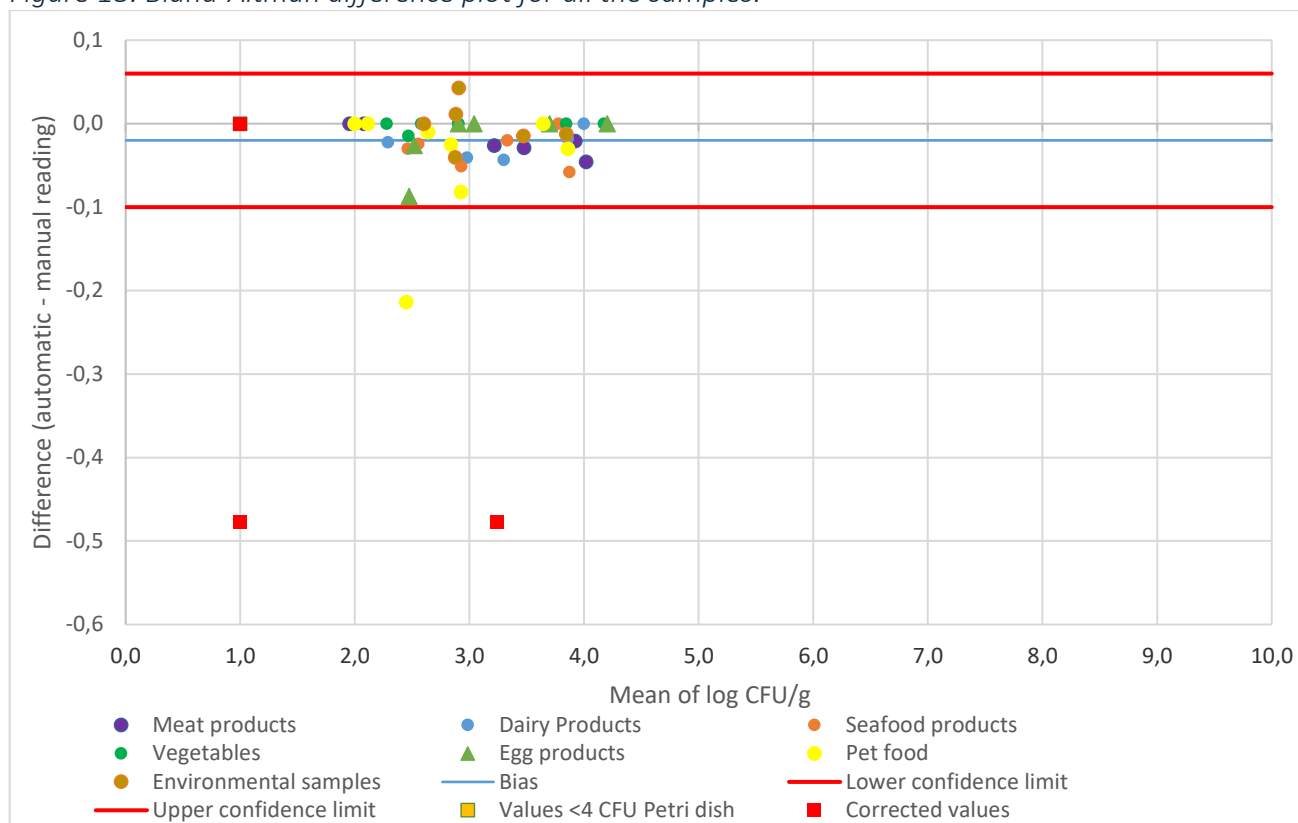
The upper and lower limits of the 95% confidence interval range from 0.06 to -0.10.

The Bland-Altman difference plots are presented in Figure 18 for all categories.

As on scatter plots:

- Each category is differentiated by a specific colour,
- Results expressed with less than 4 colonies per Petri dish for at least one method are indicated by a yellow square,
- Results lower or higher than the quantification limits for one method are indicated by a red square. The value of these results is corrected according to the EN ISO 16140-2/A1:2024 requirements.

Figure 18: Bland-Altman difference plot for all the samples.



- Observations:

Samples for which the average difference is lower or higher than the confidence limits are listed in Table 24.

Table 24: values outside the confidence limits on the Bland-Altman difference plot (green cases: values <4 CFU/Petri dish, yellow cases: values lower and higher than the quantification limits, blue: values higher than the confidence limits, red: values lower than the quantification limits)

Confidence Limits	Category	Type	Sample #	Manual reading (log)	Automatic reading (log)	Mean	Difference
LCL: -0.10 UCL: 0.06	Pet food	a	3005903	2.56	2.34	2.45	-0.21
	Meat	a	2976970	3.48	3.00	3.24	-0.48
	Dairy	a	2986175	1.48	1.00	1.24	-0.48

Three samples are out of the confidence limits (lower than the lower confidence limit) and 2 concern corrected values or samples with less than 4 CFU/Petri dish.

Only one sample interpretable is outside the confidence limits (3005903) and concerns Pet food category.

8.2. Accuracy profile study

8.2.1. Protocols

For this study, only one accuracy profile was tested to compare automatic reading with manual reading. The Expert laboratory chose to test a fish terrine matrix inoculated with a strain of *Escherichia coli* AZD018 isolated from a raw fish.

Two different batches of matrix were tested, and two samples were 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. A total of 30 samples were analyzed per matrix.

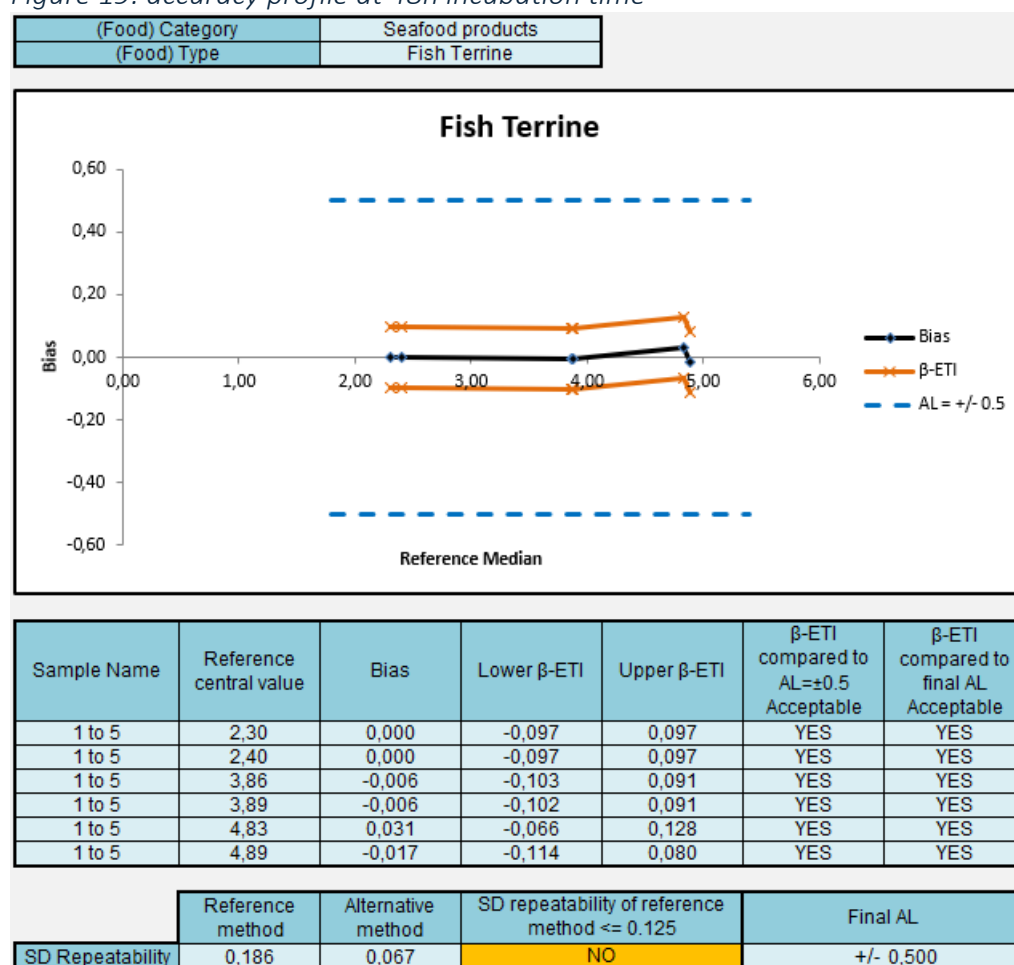
8.2.2. Results and interpretation

Raw data are provided in Appendix O.

Statistical calculations were done according to the Excel spreadsheet named AP calculation tool_MCS_ (clause_6-1-3-3 calculation_and_interpretation_of_accuracy_profile_study) ver. 27-01-2015.xlsx available at <http://standards.iso.org/iso/16140>.

For the accuracy profiles of the category, the probability for the tolerance interval β is set at 80% and the acceptability limits at 0.5.

Figure 19: accuracy profile at 48h incubation time



For the matrix-pair tested, no statistical difference was observed between the two methods.

9. Conclusion extension study PPRA

In this study, Petrifilm method was tested to compare the results obtained by automatic reading performed by the PPRA and manual reading performed by a qualified technician. For this Petrifilm, a reduced study (minimum 5 samples per category) of relative trueness and an accuracy profile were carried out. For the Petrifilm tested, no significant difference related to automatic reading was observed.

Furthermore, all the accuracy profiles produced show a very good correlation between the two reading modes tested.

10. General conclusion

- **Initial validation:**

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

- 259 samples were tested in the relative trueness study providing 152 interpretable results by both methods, which clearly satisfied the required criteria for quantitative method comparison per ISO 16140-2;
- The observed profiles are comprised within the AL.
- The inclusivity and exclusivity testing shows satisfying results.
- The quality assurance parameters were verified (i.e. targeted levels, strain stability, logistic conditions, analyses), confirming that the inter-laboratory study was conducted in appropriate conditions.
- The data interpretations were done according to the EN ISO 16140- 2/A1 (2024). For the three contamination levels, the alternative method is accepted as equivalent to the reference method.

Based on the results obtained for the method comparison study and the inter-laboratory study, the alternative method is considered equivalent to the reference method.

- **Extension study with one plate and one dilution interpretation:**

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

The relative trueness study of the alternative method is satisfying for all categories tested even if a positive bias is observed for the NEOGEN Petrifilm Select *E. coli* method.

The results obtained from interpretation carried out on a single dilution (or single plate) are equivalent to the reference method.

- **Extension study using Petrifilm Plate Reader Advanced:**

For the Petrifilm tested, no significant difference related to automatic reading was observed.

Le Lion d'Angers, October 14, 2025

Guillaume MESNARD
Technical deputy manager

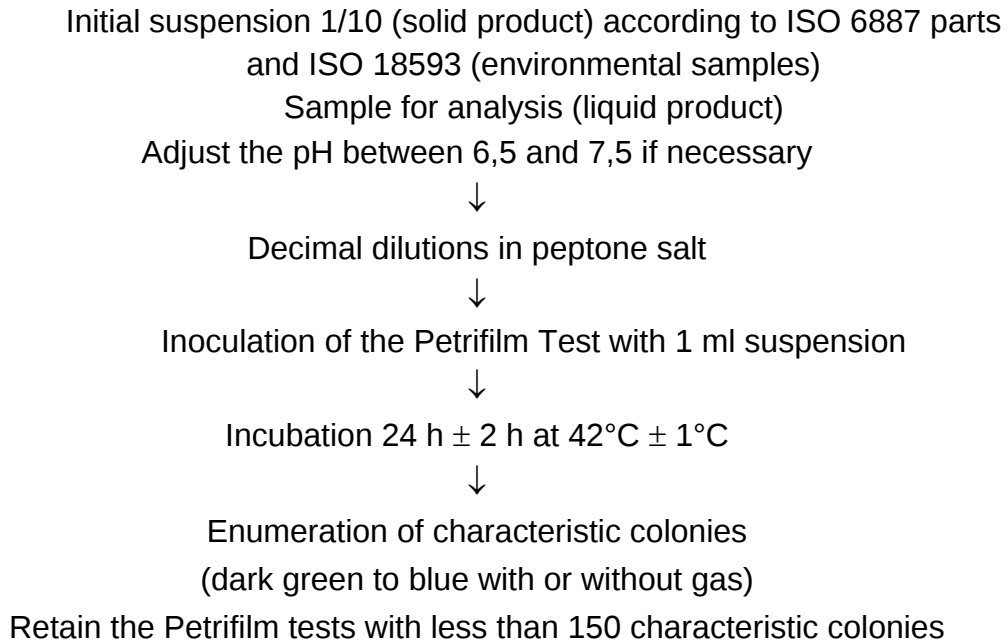


François Le Nestour
Head of the Methods Validation studies and R&D



APPENDICES

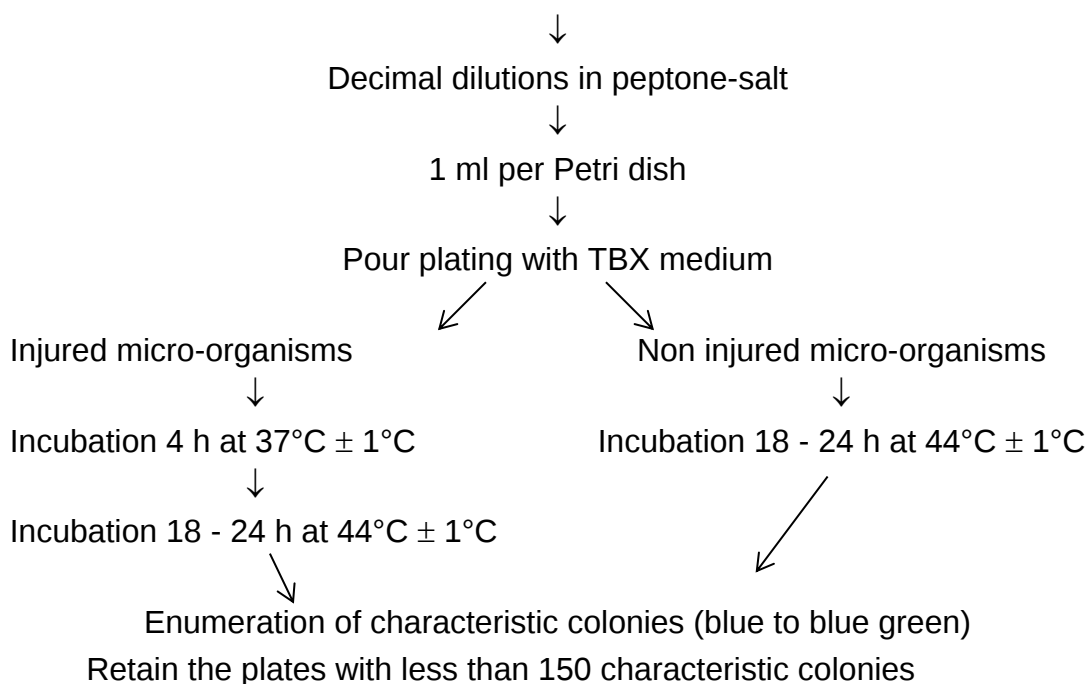
**Appendix A – Flow diagram of the alternative
method: Test NEOGEN® Petrifilm® Select *E. coli***



For environmental samples analyses after cleaning process, Lethen broth is used.

Appendix B – Flow diagram of the reference methods:
ISO 16649-2 (July 2001). Microbiology of food and animal feeding stuffs -
Horizontal method for the enumeration of B-glucuronidase-positive
***Escherichia coli* - Part 2: colony-count technique at 44 °C using 5-bromo-4-**
chloro-3-indolyl B-D-glucuronate

Initial suspension according to ISO 6887 parts and ISO 18593
(environmental samples)



For environmental samples analyses after cleaning process, Lethen broth is used.

Appendix C – Artificial contaminations of samples

Extension study 2015

Year of analysis	Sample N°	Product (French name)	Product	Inoculations			
				Strain		Injury applied	Injury evaluation
				Reference	Origin		
2015	4718	Croquettes de volaille pour chien	Pellets for dog (poultry)	<i>Escherichia coli</i> 9	Goose rillettes	HT 56°C 30min	0.89
2015	4719	Croquettes pour chat bœuf, poulet, foie	Pellets for cat (poultry)	<i>Escherichia coli</i> 123	Calf liver	HT 56°C 30min	1.23
2015	4720	Bouchées pour chien au veau et dès de carottes	Pâté for dog	<i>Escherichia coli</i> 2B	Pork	HT 56°C 30min	0.61
2015	4721	Terrine de poulet pour chat	Pâté for cat	<i>Escherichia coli</i> 9	Goose rillettes	HT 56°C 30min	0.89
2015	4908	Croquettes pour chien à la volaille	Pellets for dog (poultry)	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4909	Croquettes pour chat au bœuf	Pellets for cat (beef)	<i>Escherichia coli</i> 70	VSM	TS+10%NaCl	0.50
2015	4910	Pâté pour chien au bœuf et légumes	Pâté for dog (beef)	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4911	Pâté pour chat	Pâté for cat	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4975	Biscuits fourrés pour chien	Snack for dog	<i>Escherichia coli</i> 96	Turkey	HT 56°C 30min	0.50
2015	3842	Farine d'agneau	Lamb flour	<i>Escherichia coli</i> 13	Ground beef	HT 56°C 30min	0.40
2015	3843	Creton (farine animale)	Animal flour	<i>Escherichia coli</i> 13	Ground beef	HT 56°C 30min	0.40
2015	3844	Chiffonnette Microcut petits pois	Wipe (peas industry)	<i>Escherichia coli</i> 19	Grated carrots	HT 56°C 30min	1.20
2015	3845	Eau de cuisson petits pois	Process water (peas)	<i>Escherichia coli</i> 19	Grated carrots	HT 56°C 30min	1.20
2015	3846	Eau de rinçage casserole cuisson bechamel	Process water (bechamel sauce)	<i>Escherichia coli</i> Ad1393	Water source	HT 56°C 30min	0.40
2015	3906	Chiffonnette table découpe emmenthal	Wipe (cheese industry)	<i>Escherichia coli</i> Ad 1395	Water	HT 56°C 25 min	1.44
2015	4104	Lingette chariot stockage charcuterie	Wipe (delicatessen storage)	<i>Escherichia coli</i> 123	Veal liver	HT 50°C 5 min	0.42
2015	4105	Lingette caisse stockage saucisse	Wipe (delicatessen storage)	<i>Escherichia coli</i> 1	Pork	HT 50°C 10 min	0.40
2015	4106	Lingette plan cuisson riz sushi	Wipe (rice cooking)	<i>Escherichia coli</i> Ad1395	Water	HT 50°C 5 min	0.45
2015	4107	Lingette tapis parage après désinfection	Wipe after cleaning(fish industry)	<i>Escherichia coli</i> Ad1395	Water	HT 50°C 5 min	0.45
2015	4108	Eau de rinçage bac charcuterie	Process water (delicatessen)	<i>Escherichia coli</i> 123	Veal liver	HT 50°C 5 min	0.42
2015	4500	Farine de volaille	Animal flour	<i>Escherichia coli</i> 124	Veal liver	HT 50°C 5 min	0.42
2015	4565	Chiffonnette table découpe après nettoyage	Wipe after cleaning	<i>Escherichia coli</i> 125	Veal liver	HT 50°C 5 min	0.42
2015	4567	Poussières environnement laitier	Dusts	<i>Escherichia coli</i> Ad1828	Beef meat	HT 50°C 10 min	0.4

Renewal study 2021

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	2691	Osso buco	Veal meat RTRH	<i>E. coli</i> Ad1828	Meat product	Seeding 72h 3°C±2°C	/	6,98	/	1	c
2021	2692	Noix de joue de bœuf	Beef meat RTRH	<i>E. coli</i> Ad1828	Meat product	Seeding 72h 3°C±2°C	/	6,92	/	1	c
2021	2693	Tajine de bœuf	Beef meat RTRH tajine	<i>E. coli</i> Ad2000	Meat product	Seeding 72h 3°C±2°C	/	6,94	/	1	c
2021	2694	Porc au caramel	Pork meat RTRH	<i>E. coli</i> Ad2000	Meat product	Seeding 72h 3°C±2°C	/	7,06	/	1	c
2021	4367	Filet de cabillaud	Fish filet	<i>E. coli</i> Ad1393	Spring water	Seeding 48h 3°C±2°C	/	7,01	/	3	a
2021	4368	Filet de lieu noir	Fish filet	<i>E. coli</i> Ad1393	Spring water	Seeding 48h 3°C±2°C	/	6,95	/	3	a
2021	3962	Crevettes décortiquées crues	Raw peeled shrimps	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,07	/	3	b
2021	3963	Cocktail fruit de mer (moules, calamars, crevettes)	Seafood cocktail	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,16	/	3	b
2021	3964	Saumon atlantique fumé	Smoked salmon	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,02	/	3	b
2021	3965	Filet de maquereaux fumés au bois de hêtre	Smoked mackerel	<i>E. coli</i> Ad1384	Sea water	Seeding 48h 3°C±2°C	/	7	/	3	b
2021	3966	Saumon fumé	Smoked salmon	<i>E. coli</i> Ad1384	Sea water	Seeding 48h 3°C±2°C	/	7,05	/	3	b
2021	2695	Brandade de morue	Codfish brandade	<i>E. coli</i> Ad228	Seafood product	Seeding 72h 3°C±2°C	/	7,01	/	3	c
2021	2696	Coquille au saumon	Salmon shell	<i>E. coli</i> Ad228	Seafood product	Seeding 72h 3°C±2°C	/	6,94	/	3	c
2021	2697	Darnes de saumon d'Ecosse	Salmon steak from Scotland	<i>E. coli</i> Ad1401	Seafood product	Seeding 72h 3°C±2°C	/	6,99	/	3	c
2021	2698	Terrine de saumon	Salmon terrine	<i>E. coli</i> Ad1401	Seafood product	Seeding 72h 3°C±2°C	/	7,01	/	3	c
2021	2699	Purée de patates douces	Sweet potato purée	<i>E. coli</i> Ad19	Vegetable product	Seeding 72h 3°C±2°C	/	6,99	/	4	c
2021	2700	Ecrasé de pomme de terre	Potato purée	<i>E. coli</i> Ad19	Vegetable product	Seeding 72h 3°C±2°C	/	7,12	/	4	c
2021	2701	Radis apéro	RTE radish	<i>E. coli</i> Ad18	Environmental product	Seeding 72h 3°C±2°C	/	7,03	/	4	c
2021	2702	Baby carottes	RTE carrot	<i>E. coli</i> Ad18	Environmental product	Seeding 72h 3°C±2°C	/	6,96	/	4	c

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4076	Galettes épinards pignons	RTRH vegetables galette (spinach and pine nuts)	<i>E. coli</i> Ad1398	Water treatment plant	Seeding 48h 3°C±2°C	/	7,03	/	4	c
2021	4077	Galettes panées sarrazin poireaux boulgour	RTRH vegetables galette (leek, buckwheat and bulgur)	<i>E. coli</i> Ad1398	Water treatment plant	Seeding 48h 3°C±2°C	/	6,96	/	4	c
2021	3967	Religieuse café	Pastry (coffee flavor)	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	7,01	/	5	b
2021	3968	Tutti frutti	Pastry	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	7	/	5	b
2021	3969	Eclair chocolat	Pastry	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	6,96	/	5	b
2021	3970	Poire belle Hélène	Pastry (pear)	<i>E. coli</i> 143	Egg products	Seeding 48h 3°C±2°C	/	7,1	/	5	b
2021	3971	Tartelette pomme à la normande	Pastry (apple)	<i>E. coli</i> 143	Egg products	Seeding 48h 3°C±2°C	/	6,95	/	5	b
2021	3975	Paëlla volaille et fruit de mer	Paella with meat and seafood	<i>E. coli</i> 123	Meat product	Seeding 48h 3°C±2°C	/	7,01	/	5	c
2021	3976	Paëlla au poulet et fruit de mer	Paella with meat and seafood	<i>E. coli</i> 123	Meat product	Seeding 48h 3°C±2°C	/	6,98	/	5	c
2021	4361	Salade de poulet rôti	RTE salad with chicken	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,85	/	5	c
2021	4362	Salade à base de poulet	RTE salad with chicken	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,88	/	5	c
2021	4363	Filet de poulet et pommes de terre à la sarladaise	RTRH Chicken meat with potatoes and sauces	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,83	/	5	c
2021	4364	Hachis parmentier	RTRH beef meat with purée	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,81	/	5	c
2021	4365	Lasagne bolognaise	RTRH food lasagne with bolognese	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,91	/	5	c
2021	4366	Lasagne bolognaise	RTRH food lasagne with bolognese	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,91	/	5	c
2021	4290	Croquettes pour chat bœuf/poulet	Pellets for cat (beef/chicken meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,98	/	6	a
2021	4291	Croquettes pour chien volailles/légumes verts	Pellets for dog (chicken meat and vegetables)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,95	/	6	a
2021	4292	Biscuit pour chien bœuf/poulet/agneau	Biscuit for dog (beef, chicken and lamb meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,03	/	6	a
2021	4293	Tablette au bœuf pour chien	Biscuit for dog (beef meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,01	/	6	a

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4294	Pâté pour chat bio poulet	Organic terrine for cat (chicken meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,99	/	6	b
2021	4295	Terrine au bœuf pour chien	Terrine for dog (beef meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,02	/	6	b
2021	4296	Matière première alimentation animal (farine) 42	Raw material for feed (flour)	<i>E. coli</i> Ad233	Meat product	Spiking Heat treatment 56°C 10min	1,4	7	/	6	c
2021	4297	Matière première alimentation animal (farine) 42	Raw material for feed (flour)	<i>E. coli</i> Ad234	Meat product	Spiking Heat treatment 56°C 10min	0,9	7	/	6	c
2021	4298	Matière première alimentation animal	Raw material for feed	<i>E. coli</i> Ad233	Meat product	Spiking Heat treatment 56°C 10min	1,4	6,98	/	6	c
2021	4299	Matière première alimentation animal	Raw material for feed	<i>E. coli</i> Ad234	Meat product	Spiking Heat treatment 56°C 10min	0,9	6,98	/	6	c
2021	4078	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	Process water n°7 (Dairy products industry)	<i>E. coli</i> E17	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4079	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	Process water n°7 (Dairy products industry)	<i>E. coli</i> E17	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4080	Eau de rinçage n°1 (industrie de produits carnés)	Rinse water n°1 (Meat products industry)	<i>E. coli</i> Ad2001	Dairy products	Seeding 48h 3°C±2°C	/	7,07	/	7	b
2021	4081	Eau de rinçage n°1 (industrie de produits carnés)	Rinse water n°1 (Meat products industry)	<i>E. coli</i> Ad2001	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4300	Poussière d'aspirateur de laiterie P51	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	6,86	/	7	c
2021	4301	Poussière d'aspirateur de laiterie P62	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	6,97	/	7	c
2021	4302	Poussière d'aspirateur de laiterie E241	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	7	/	7	c
2021	4303	Poussière d'aspirateur de laiterie A12	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	7,03	/	7	c

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4304	Poussière d'aspirateur de laiterie A32	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	6,97	/	7	c
2021	4305	Poussière d'aspirateur de laiterie A31	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	6,95	/	7	c

Appendix D - Relative trueness study: raw data

MEAT PRODUCTS																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		
2000	A2	Toulouse sausages	/						<1	<1						<1	<1	1	b
2000	A3	Stuffed roast	/						1,00*	1,00						1,70	1,70	1	c
2000	A5	Frozen breast of chicken	/						1,40*	1,74						1,70	1,48	1	a
2000	A6	Frozen breast of chicken	/						1,30*	1,65						1,95	1,90	1	a
2000	A10	Meat cutlet	/						1,18*	1,18						<1	1,30	1	a
2000	A11	Sausages	/						1,60	1,70						1,78	2,15	1	b
2000	A12	Veal olive	/						2,00	1,95						2,30	2,28	1	c
2000	A19	Pork tongue	/						1,30*	<1						1,78	1,95	1	a
2000	A20	Pork breast without rind	/						2,00	2,00						2,30	2,60	1	a
2000	A24	Chicken gizzards	/						1,00*	<1						<1	1,70	1	a
2000	A26	Cockerel	/						3,02	3,10						3,95	3,98	1	a
2000	A27	Chicken heart	/						<1	1,18						1,95	1,85	1	a
2000	A28	Chicken gizzards	/						2,33	2,33						2,66	2,66	1	a
2000	A30	Cockerel	/						1,00*	<1						2,13	2,08	1	a
2000	A31	chicken	/						1,40*	1,60						1,78	1,78	1	a
2000	A32	Cockerel	/						1,00*	0,66						1,70	2,04	1	a
2000	A33	Chicken legs	/						1,18*	1,18						2,13	1,78	1	a
2000	A38	Veal olive	/						0,66*	<1						1,70	1,30	1	c
2000	A39	Veal olive	/						1,13*	1,36						1,95	1,85	1	c
2000	A40	Sausage meat	/						<1	<1						<1	<1	1	b
2000	A49	Merguez	/						2,58	2,51						2,59	2,64	1	b
2000	A50	Merguez	/						2,49	2,53						2,66	2,63	1	b
2000	A51	Merguez	/						2,72	2,71						2,92	2,97	1	b
2000	A52	Merguez	/						2,53	2,56						2,64	2,53	1	b
2000	A53	Merguez	/						2,44	2,39						2,69	2,67	1	b
2000	A54	Sausage meat preparation	/						<1	<1						<1	1,00	1	b
2000	A55	Sausage meat preparation	/						0,66*	1,00						1,00*	1,00	1	b
2000	A56	Sausage meat preparation	/						<1	1,18						1,30*	<1	1	b
2000	A57	Chipolatas	/						0,66*	0,66						<1	1,60	1	b
2000	A58	Chipolatas with aromatic herbs	/						<1	1,30						1,48*	1,00	1	b
2000	A66	Merguez	/						0,66*	1,40						1,30*	1,85	1	b
2000	A67	Sausage meat preparation	/						<1	<1						1,00*	<1	1	b
2000	A68	Toulouse sausages	/						0,66*	1,18						1,30*	1,48	1	b
2000	A69	Chipolatas	/						<1	0,66						1,00*	<1	1	b
2000	A71	Duck liver	/						2,85	2,92						3,00	2,94	1	a
2000	A72	Chicken heart	/						2,23	2,04						2,74	2,76	1	a
2000	A73	Chicken gizzards	/						1,00*	0,66						1,00	1,00	1	c
2000	A74	Turkey cutlet	/						1,70	1,48						1,86	2,04	1	a
2000	A75	Chipolatas with aromatic herbs	/						1,18*	0,66						1,48	1,60	1	b
2000	A89	Guineafowl	/						1,98	2,00						2,42	2,57	1	a
2000	A90	Cockerel	/						1,48*	1,88						2,32	2,21	1	a
2000	A91	Chicken cutlet	/						1,18*	0,66						<1	1,00	1	a
2000	A93	Chicken cutlet	/						1,98	1,90						2,11	2,20	1	a
2000	A94	Turkey cutlet	/						2,37	2,43						2,78	2,75	1	a
2000	A95	Chicken liver	/						3,35	3,37						4,76	4,71	1	a
2000	A110	Chipolatas	/						2,33	2,32						2,54	2,41	1	b

MEAT PRODUCTS																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate								Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		
2000	A111	Guineafowl	/						<1	0,70						2,19	1,90	1	a
2000	A112	Toulouse sausages	/						1,94	2,02						2,32	2,28	1	b
2000	A113	Turkey cutlet	/						1,30*	1,48						1,70	1,48	1	a
2000	A114	Chicken cutlet	/						<1	<1						<1	1,00	1	a
2021	2691	Veal meat RTRH	Osso buco	10	37		350		2,54		10	44		470		2,67		1	c
				100	1				100	8									
2021	2692	Beef meat RTRH	Noix de joue de bœuf	100	88		8900		3,95		100	88		8500		3,93		1	c
				1000	10				1000	5									
2021	2693	Beef meat RTRH tajine	Tajine de bœuf	100	60		5600		3,75		1000	23		22000		4,34		1	c
				1000	2				10000	1									
2021	2694	Pork meat RTRH	Porc au caramel	1000	>150		200000		5,30		1000	>150		170000		5,23		1	c
				10000	20		N'		N'		10000	17		N'		N'			

DAIRY PRODUCTS																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate						Category	Type		
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g				log CFU/g	
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2
2000	A7	Bethmal	/						1,00*	0,70						1,70	1,85	2	b
2000	A8	Tomme de savoie	/						3,37	3,29						3,19	3,37	2	b
2000	A13	Crottin de chavignol	/						1,65	1,18						1,48*	1,70	2	b
2000	A14	Camenbert	/						4,18	4,40						4,76	4,76	2	b
2000	A15	Brie de meaux	/						3,29	3,44						3,71	3,74	2	b
2000	A21	Crottin de chavignol	/						1,00*	<1						1,00*	<1	2	b
2000	A22	Swiss cheese (raw milk)	/						1,66	1,48						1,70	2,08	2	c
2000	A23	Tomme du nevet	/						<1	<1						<1	<1	2	b
2000	A29	Raw milk	/						1,62	1,71						1,65	1,61	2	a
2000	A37	Raw milk	/						1,68	1,68						1,69	1,61	2	a
2000	A42	Camembert	/						4,66	4,67						4,81	4,73	2	b
2000	A43	Raw milk	/						1,72	1,85						1,97	2,03	2	a
2000	A44	Brie	/						3,49	3,50						3,63	3,56	2	b
2000	A45	Farm Munster	/						3,73	3,76						3,76	3,80	2	b
2000	A46	Munster	/						1,00*	<1						<1	<1	2	b
2000	A59	Camembert	/						1,56*	1,77						1,60	1,00	2	b
2000	A60	Munster	/						2,00	2,18						2,36	2,26	2	b
2000	A61	Bethmal	/						0,70*	1,18						<1	<1	2	b
2000	A62	Raw milk	/						-0,04	0,26						0,48*	0,26	2	a
2000	A63	Raw milk	/						0,70*	0,50						0,70*	0,56	2	a
2000	A64	Reblochon	/						1,00*	0,70						1,00*	1,30	2	b
2000	A83	Raw milk	/						4,28	4,39						5,12	5,07	2	a
2000	A84	Raw milk	/						3,05	3,02						2,94	2,85	2	a
2000	A85	Raw milk	/						0,94*	1,26						1,26*	1,37	2	a
2000	A86	Raw milk	/						3,81	3,90						4,48	4,52	2	a
2000	A87	Raw milk	/						1,83	1,73						1,00*	1,11	2	a
2000	A88	Raw milk	/						0,50*	0,66						0,66*	1,37	2	a
2000	A96	Soft white cheese	/						2,73	2,65						2,70	2,37	2	b
2000	A98	Ewe's raw milk cheese	/						<1	<1						1,00*	1,00	2	b
2000	A99	Fermented milk	/						1,78	1,40						1,70	1,60	2	c
2000	A100	Soft white cheese	/						1,98	1,70						1,85	1,30	2	c
2000	A101	Fermented milk	/						2,06	2,10						1,60	1,30	2	c
2000	A102	Cream	/						1,85	2,04						2,08	1,70	2	c
2000	A103	Fresh cream	/						2,13	2,10						2,04	2,08	2	c

SEAFOOD																				
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type	
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/petrifilm		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2
2000	A4	Frozen fish croquettes	/						2,88	2,86							3,00	3,14	3	c
2000	A25	Frozen sardines	/						1,00*	1,30							1,30*	1,30	3	a
2000	A35	Frozen shells	/						<1	<1							<1	<1	3	a
2000	A127	Cockles	/						<1	<1							1,30*	1,30	3	a
2000	A128	Cockles	/						<1	<1							<1	1,00	3	a
2000	A132	Smoked salmon	/						<1	<1							<1	<1	3	b
2000	A133	Sea almond	/						<1	<1							<1	<1	3	a
2000	A134	Clams	/						<1	<1							<1	<1	3	a
2000	A135	Cockles	/						<1	<1							<1	<1	3	a
2000	A136	Oysters	/						<1	<1							<1	<1	3	a
2000	A145	Clams	/						<1	<1							<1	<1	3	a
2000	A146	Pilchards	/						<1	<1							<1	<1	3	a
2000	A147	Mackerel	/						<1	<1							<1	<1	3	a
2000	A148	Mussels	/						2,16	2,12							2,60	2,44	3	a
2000	A149	Clams	/						2,12	2,19							2,58	2,50	3	a
2000	A150	Pilchards	/						1,54	1,81							1,00	1,78	3	a
2000	A151	Mussels	/						2,53	2,42							2,59	2,59	3	a
2000	A152	Mackerel	/						1,48*	1,00							1,30*	1,30	3	a
2000	A153	Cockles	/						1,18*	1,30							1,30*	1,78	3	a
2000	A154	Mussels	/						0,66*	1,00							1,00*	1,30	3	a
2021	2695	Codfish brandade	Brandade de morue	10	8		80		1,90		10	31		300		2,48		3	c	
				100	0				Ne			2								
2021	2696	Salmon shell	Coquille au saumon	100	48		4500		3,65		100	68		6600		3,82		3	c	
				1000	2							5								
2021	2697	Salmon steak from Scotland	Darnes de saumon d'Ecosse	100	15		1500		3,18		1000	13		14000		4,15		3	c	
				1000	2							2								
2021	2698	Salmon terrine	Terrine de saumon	1000	39		36000		4,56		1000	98		100000		5,00		3	c	
				10000	1							14								
2021	3962	Raw peeled shrimps	Crevettes décortiquées crues	10	38		380		2,58		10	59		590		2,77		3	b	
				100	12							6								
2021	3963	Seafood cocktail	Cocktail fruit de mer (moules, calamars, crevettes)	100	99		10000		4,00		100	94		9300		3,97		3	b	
				1000	11							8								
2021	3964	Smoked salmon	Saumontlantique fumé	100	91		9200		3,96		1000	17		17000		4,23		3	b	
				1000	10							2								
2021	3965	Smoked mackerel	Filet de maquereaux fumés au bois de hêtre	1000	67		66000		4,82		1000	97		97000		4,99		3	b	
				10000	6							10								
2021	3966	Smoked salmon	Saumon fumé	1000	11		13000		4,11		1000	11		12000		4,08		3	b	
				10000	3							2								
2021	4367	Fish filet	Filet de cabillaud	1000	62		62000		4,79		1000	>150		180000 N'		5,26 N'		3	a	
				10000	6							18								
2021	4368	Fish filet	Filet de lieu noir	10000	21		240000		5,38		10000	29		280000		5,45		3	a	
				100000	5							2								

VEGETABLES																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type	
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2
2000	A1	Buckwheat flour	/						2,02	2,04						2,04	2,00	4	b
2000	A34	Buckwheat flour	/						1,65	1,66						1,78	1,78	4	b
2000	A47	Frozen mashed potatoes	/						2,06	2,04						2,00	1,85	4	b
2000	A48	Frozen spinach puree	/						<1	<1						<1	<1	4	b
2000	A65	Red pepper	/						1,00*	<1						1,60	1,78	4	a
2000	A70	Soya bean sprouts	/						<1	<1						<1	<1	4	a
2000	A76	Cabbage	/						1,65	1,74						3,13	3,11	4	a
2000	A77	Endive salad	/						2,81	2,79						3,09	2,98	4	a
2000	A78	Green pepper	/						2,47	2,34						2,44	2,36	4	a
2000	A79	Red pepper	/						2,04	2,02						1,95	2,16	4	a
2000	A80	Parsley	/						3,05	3,05						2,98	3,02	4	a
2000	A81	Radish	/						2,06	1,93						2,04	2,00	4	a
2000	A82	Potatoes	/						2,00	1,98						2,15	2,08	4	a
2000	A92	Frozen spinaches	/						1,85	1,60						2,21	2,26	4	b
2000	A97	Frozen spinaches	/						1,48*	1,54						2,20	2,36	4	b
2000	A104	Frozen Brussels sprouts	/						1,70	1,78						2,08	2,16	4	b
2000	A105	Frozen sti-fry vegetable assortment	/						1,70	1,40						2,15	2,04	4	b
2000	A106	Frozen vegetable preparation for couscous	/						1,18*	1,00						1,48*	1,78	4	b
2000	A107	Frozen sti-fry vegetable assortment	/						<1	1,00						1,00*	1,00	4	b
2000	A108	Frozen spinaches	/						1,95	1,74						2,26	1,95	4	b
2000	A109	Frozen vegetable preparation for ratatouille	/						<1	<1						<1	1,00	4	b
2000	A129	Buckwheat seeds	/						<1	<1						<1	<1	4	a
2000	A130	Frozen spinaches	/						<1	<1						1,60	1,48	4	b
2000	A131	Red peppers	/						1,18*	1,40						1,60	1,48	4	a
2000	A137	Stir-fry vegetable assortment	/						2,15	2,21						2,64	2,66	4	b
2000	A138	Brussels sprouts	/						2,34	2,24						2,54	2,64	4	a
2000	A139	Spinaches	/						2,29	2,18						2,82	2,71	4	a
2000	A140	Vegetable preparation for couscous	/						1,91	1,74						2,57	2,59	4	b
2000	A141	Frozen vegetable preparation for couscous	/						4,22	4,33						4,21	4,23	4	b
2000	A142	Brussels sprouts	/						4,45	4,62						4,43	4,54	4	a
2000	A143	Spinaches	/						3,74	3,74						3,68	3,75	4	a
2000	A144	Stir-fry vegetable assortment	/						4,19	4,08						3,94	3,86	4	b
2021	2699	Sweet potato purée	Purée de patates douces	10	8		80		1,90		10	36		350		2,54		4	c
				100	0				Ne		100	2							
2021	2700	Potato purée	Ecrasé de pomme de terre	10	47		460		2,66		100	70		7000		3,85		4	c
				100	4						1000	7							

VEGETABLES																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		
2021	2701	RTE radish	Radis apéro	100	8		730		2,86		100	78		7700		3,89		4	c
				1000	0					1000	7								
2021	2702	RTE carrot	Baby carottes	100	13		1200		3,08		1000	29		27000		4,43		4	c
				1000	0					10000	1								
2021	4076	RTRH vegetables galette (spinach and pine nuts)	Gallettes épinards pignons	1000	25		28000		4,45		1000	87		89000		4,95		4	c
				10000	6					10000	11								
2021	4077	RTRH vegetables galette (leek, buckwheat and bulgur)	Gallettes panées sarrazin poireaux boulgour	1000	126		120000		5,08		1000	132		140000		5,15		4	c
				10000	11					10000	22								

EGG PRODUCTS AND COMPOSITE FOOD																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type	
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2
2000	A9	Dehydrated chicken cream	/						<1	<1						<1	<1	5	c
2000	A16	Liquid egg product	/						2,40	2,95						2,95	3,00	5	a
2000	A17	Liquid egg product	/						3,44	3,32						3,56	3,50	5	a
2000	A18	Liquid egg product	/						2,46	2,54						2,69	2,80	5	a
2000	A36	Frozen goat's milk cheese pizza	/						<1	<1						<1	<1	5	c
2000	A41	Toasted cheese sandwich with ham	/						1,48*	1,40						1,60	1,48	5	c
2000	A115	Liquid egg product	/						1,54*	1,60						1,60	1,60	5	a
2000	A116	Liquid egg product	/						0,70*	1,18						1,60	1,60	5	a
2000	A117	Liquid egg product	/						1,54*	1,18						1,30*	1,00	5	a
2000	A118	Liquid egg product	/						1,18*	1,00						1,60	1,60	5	a
2000	A119	Liquid egg product	/						1,00*	1,48						1,30*	1,60	5	a
2000	A120	Liquid egg product	/						1,30*	1,48						1,78	1,60	5	a
2000	A121	Liquid egg product	/						1,18*	1,30						1,48*	1,70	5	a
2000	A122	Liquid egg product	/						1,60	1,40						1,30*	1,78	5	a
2000	A123	Liquid egg product	/						1,00*	1,30						1,48*	1,70	5	a
2000	A124	Liquid egg product	/						1,18*	1,18						1,30*	1,48	5	a
2000	A125	Liquid egg product	/						1,88	1,40						1,85	1,90	5	a
2000	A126	Liquid egg product	/						1,40*	1,18						1,60	1,60	5	a
2000	A155	Liquid egg product	/						2,76	2,81						2,96	2,91	5	a
2000	A156	Liquid egg product	/						3,44	3,42						3,42	3,45	5	a
2000	A157	Liquid egg product	/						3,35	3,48						3,26	3,36	5	a
2000	A158	Liquid egg product	/						3,30	3,24						3,36	3,45	5	a
2000	A159	Liquid egg product	/						2,51	2,62						2,73	2,73	5	a
2000	A160	Liquid egg product	/						3,19	3,26						3,32	3,26	5	a
2000	A161	Liquid egg product	/						2,59	2,63						2,63	2,72	5	a
2000	A162	Liquid egg product	/						2,64	2,65						2,82	2,86	5	a
2000	A163	Liquid egg product	/						2,72	2,71						2,70	2,71	5	a
2000	A164	Liquid egg product	/						3,03	3,02						2,98	3,04	5	a
2021	3967	Pastry (coffee flavor)	Religieuse café	10	16		160		2,20		10	43		420		2,62		5	b
				100	1			100			3								
2021	3968	Pastry	Tutti frutti	100	54		5700		3,76		100	69		7000		3,85		5	b
				1000	9			1000			8								
2021	3969	Pastry	Eclair chocolat	100	70		6500		3,81		1000	31		30000		4,48		5	b
				1000	2			10000			2								
2021	3970	Pastry (pear)	Poire belle Hélène	1000	21		20000		4,30		1000	35		34000		4,53		5	b
				10000	1			10000			2								
2021	3971	Pastry (apple)	Tartelette pomme à la normande	10000	18		170000		5,23		10000	16		160000		5,20		5	b
				100000	1			100000			2								
2021	3975	Paella with meat and seafood	Paëlla volaille et fruit de mer	1000	38		37000		4,57		1000	122		120000		5,08		5	c
				10000	3			10000			9								
2021	3976	Paella with meat and seafood	Paëlla au poulet et fruit de mer	1000	2		2000*		3,00*		1000	>150		250000 N'		5,40		5	c
				10000	0			10000			25								

EGG PRODUCTS AND COMPOSITE FOOD																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		
2021	4361	RTE salad with chicken	Salade de poulet roti	10	16		160		2,20		10	56		540		2,73		5	c
				100	2					100	3								
2021	4362	RTE salad with chicken	Salade à base de poulet	100	16		1600		3,20		100	95		10000		4,00		5	c
				1000	2					1000	18								
2021	4363	RTRH Chicken meat with potatoes and sauces	Filet de poulet et pommes de terre à la salardaise	100	62		5800		3,76		100	>150		27000		4,43		5	c
				1000	2					1000	27		N'		N'				
2021	4364	RTRH beef meat with purée	Hachis parmentier	10	55		530		2,72		10	>150		2400		3,38		5	c
				100	3					100	24		N'		N'				
2021	4365	RTRH food lasagne with bolognese	Lasagne bolognaise	100	61		5600		3,75		100	103		10000		4,00		5	c
				1000	1					1000	11								
2021	4366	RTRH food lasagne with bolognese	Lasagne bolognaise	1000	33		33000		4,52		1000	100		100000		5,00		5	c
				10000	3					10000	11								

PET FOOD																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type	
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2
2015	4718	Pellets for dog (poultry)	/						1,60	2,00						<1,00	1,00	6	a
2015	4719	Pellets for cat (poultry)	/						1,00*	<1,00						1,00*	<1,00	6	a
2015	4720	Pâté for dog	/						3,72	3,81						3,61	3,69	6	b
2015	4721	Pâté for cat	/						2,40	2,43						2,64	2,81	6	b
2015	4908	Pellets for dog (poultry)	/						2,86	2,79						2,81	2,82	6	a
2015	4909	Pellets for cat (beef)	/						3,57	3,51						3,46	3,64	6	a
2015	4910	Pâté for dog (beef)	/						3,67	3,76						3,72	3,58	6	b
2015	4911	Pâté for cat	/						4,00	4,04						4,04	3,90	6	b
2015	4975	Snack for dog	/						3,11	3,04						2,73	2,63	6	a
2015	3672	Poultry flour	/						<1,00	<1,00						<1,00	<1,00	6	c
2015	3673	Lamb flour	/						<1,00	<1,00						<1,00	<1,00	6	c
2015	3674	Animal flour	/						<1,00	<1,00						<1,00	<1,00	6	c
2015	3675	Animal flour	/						<1,00	<1,00						<1,60	<1,00	6	c
2015	3842	Lamb flour	/						1,60	1,60						1,70	1,60	6	c
2015	3843	Animal flour	/						1,95	1,78						1,70	1,60	6	c
2015	4500	Animal flour	/						2,23	2,45						2,28	2,28	6	c
2021	4290	Pellets for cat (beef/chicken meat)	Croquettes pour chat bœuf/poulet	10	10		110		2,04		10	2		20		1,30*		6	a
				100	2						100	0							
2021	4291	Pellets for dog (chicken meat and vegetables)	Croquettes pour chien volailles/légumes verts	100	>150		67000		4,83		100	>150		73000		4,86		6	a
				1000	67						1000	73							
2021	4292	Biscuit for dog (beef, chicken and lamb meat)	Biscuit pour chien bœuf/poulet/agneau	1000	>150		200000		5,30		1000	>150		210000		5,32		6	a
				10000	20						10000	21							
2021	4293	Biscuit for dog (beef meat)	Tablette au bœuf pour chien	1000	>150		630000		5,80		1000	>150		590000		5,77		6	a
				10000	63						10000	59							
2021	4294	Organic terrine for cat (chicken meat)	Pâté pour chat bio poulet	10	21		200		2,30		10	10		110		2,04		6	b
				100	1						100	2							
2021	4295	Terrine for dog (beef meat)	Terrine au bœuf pour chien	1000	>150		490000		5,69		1000	>150		740000		5,87		6	b
				10000	49						10000	74							
2021	4296	Raw material for feed (flour)	Matière première alimentation animal (farine) 42	10	60		590		2,77		100	13		1300		3,11		6	c
				100	5						1000	1							
2021	4297	Raw material for feed (flour)	Matière première alimentation animal (farine) 42	1000	56		60000		4,78		1000	67		65000		4,81		6	c
				10000	10						10000	4							
2021	4298	Raw material for feed	Matière première alimentation animal	100	151		15000		4,18		1000	26		25000		4,40		6	c
				1000	9						10000	1							
2021	4299	Raw material for feed	Matière première alimentation animal	1000	120		110000		5,04		1000	137		130000		5,11		6	c
				10000	5						10000	10							

ENVIRONMENTAL SAMPLES																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate						Category	Type		
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g				log CFU/g	
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2
2015	3676	Dusts from egg industry	/						<1,00	<1,00						<1,00	<1,00	7	c
2015	3677	Dusts	/						<1,00	<1,00						<1,00	<1,60	7	c
2015	3678	Dusts from dairy industry	/						<1,00	<1,00						2,08	2,00	7	c
2015	3679	Dusts from dairy industry	/						<1,00	<1,00						<1,00	<1,00	7	c
2015	3844	Wipe (peas industry)	/						2,36	2,36						2,34	2,18	7	a
2015	3845	Process water (peas)	/						2,23	2,28						2,15	2,15	7	b
2015	3846	Process water (bechamel sauce)	/						1,95	1,90						2,00	1,90	7	b
2015	3906	Wipe (cheese industry)	/						<1,00	1,00						1,00*	<1,00	7	a
2015	4006	Process water (fish industry)	/						<0,00	<0,00						<0,00	<0,00	7	b
2015	4007	Process water (fish industry)	/						<0,00	<0,00						<0,00	<0,00	7	b
2015	4008	Process water (fish industry)	/						<0,00	<0,00						<0,00	<0,00	7	b
2015	4009	Process water (fish industry)	/						<0,00	<0,00						<0,00	<0,00	7	b
2015	4010	Process water (fish industry)	/						<0,00	<0,00						<0,00	<0,00	7	b
2015	4011	Swab after cleaning (fish industry)	/						<1,00	<1,00						<1,00	<1,00	7	a
2015	4012	Swab after cleaning (fish industry)	/						<1,00	<1,00						<1,00	<1,00	7	a
2015	4013	Wipe after cleaning(fish industry)	/						<1,00	<1,00						<1,00	<1,00	7	a
2015	4014	Wipe after cleaning(fish industry)	/						<1,00	<1,00						<1,00	<1,00	7	a
2015	4015	Wipe after cleaning(fish industry)	/						<1,00	<1,00						<1,00	<1,00	7	a
2015	4104	Wipe (delicatessen storage)	/						3,60	3,81						3,59	3,64	7	a
2015	4105	Wipe (delicatessen storage)	/						2,90	3,11						3,08	3,15	7	a
2015	4106	Wipe (rice cooking)	/						2,64	2,79						2,62	2,66	7	a
2015	4107	Wipe after cleaning(fish industry)	/						3,40	3,56						3,41	3,46	7	a
2015	4108	Process water (delicatessen)	/						3,20	3,40						3,08	3,08	7	b
2015	4565	Wipe after cleaning	/						2,69	2,79						2,60	2,64	7	a
2015	4567	Dusts	/						2,38	2,36						2,61	2,43	7	c
2021	4078	Process water n°7 (Dairy products industry)	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	100	63		6100		3,79		100	70		7100		3,85		7	b
				1000	4			1000			8								
2021	4079	Process water n°7 (Dairy products industry)	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	100	114		12000		4,08		100	111		12000		4,08		7	b
				1000	16			1000			22								
2021	4080	Rinse water n°1 (Meat products industry)	Eau de rinçage n°1 (industrie de produits carnés)	1000	97		98000		4,99		1000	121		120000		5,08		7	b
				10000	11			10000			15								

ENVIRONMENTAL SAMPLES																			
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							Alternative method: Petrifilm® Select <i>E.coli</i> Count Plate							Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		
2021	4081	Rinse water n°1 (Meat products industry)	Eau de rinçage n°1 (industrie de produits carnés)	1000	105		100000		5,00		1000	131		130000		5,11		7	b
				100	10				10000	12									
2021	4300	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie P51	100	>150		42000		4,62		100	>150		56000		4,75		7	c
				1000	42		N'		N'		1000	56		N'		N'			
2021	4301	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie P62	1000	>150		380000		5,58		1000	>150		280000		5,45		7	c
				10000	38		N'		N'		10000	28		N'		N'			
2021	4302	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie E241	1000	>150		107000		6,03		1000	>150		1300000		6,11		7	c
				10000	107		N'		N'		10000	125		N'		N'			
2021	4303	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A12	100	5		500		2,70		100	95		9300		3,97		7	c
				1000	0		Ne		Ne		1000	7							
2021	4304	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A32	1000	46		45000		4,65		1000	55		56000		4,75		7	c
				10000	4				10000	7									
2021	4305	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A31	1000	114		120000		5,08		1000	114		120000		5,08		7	c
				10000	16				10000	14									

Appendix E - Accuracy profile study: raw data

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>				
								22h at 42°C				
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm test	CFU/g	log CFU/g	
Rillettes Batch 1 Aerobic mesophilic flora: <2,0.10 ¹ CFU/g	<i>E. coli</i> 9	1	2471	10	12	130	2,11	10	23	280	2,45	
				100	2			100	8			
			2472	10	21	210	2,32	10	35	360	2,56	
				100	2			100	4			
			2473	10	32	320	2,51	10	39	380	2,58	
				100	3			100	3			
		2474	10	25	300	2,48	10	31	300	2,48		
			100	8			100	2				
		2475	10	35	400	2,60	10	33	340	2,53		
			100	9			100	4				
		2	2476	100	54	5400	3,73	100	96	9500	3,98	
				1000	5			1000	9			
			2477	100	34	3500	3,54	100	62	5800	3,76	
				1000	5			1000	2			
			2478	100	68	6500	3,81	100	62	5900	3,77	
				1000	3			1000	3			
		2479	100	56	5500	3,74	100	35	3500	3,54		
			1000	4			1000	13				
		2480	100	32	3000	3,48	100	102	10000	4,00		
			1000	1			1000	10				
		3	2481	1000	58	55000	4,74	1000	99	110000	5,04	
				10000	2			10000	18			
			2482	1000	24	24000	4,38	1000	102	110000	5,04	
				10000	2			10000	15			
2483			1000	62	62000	4,79	1000	123	130000	5,11		
			10000	6			10000	18				
2484		1000	59	62000	4,79	1000	97	98000	4,99			
		10000	9			10000	11					
2485		1000	54	52000	4,72	1000	114	120000	5,08			
		10000	3			10000	18					
Rillettes Batch 2 Aerobic mesophilic flora: <2,0.10 ¹ CFU/g		<i>E. coli</i> 9	1	2486	10	15	160	2,20	10	30	310	2,49
					100	2			100	4		
				2487	10	18	170	2,23	10	27	280	2,45
					100	1			100	4		
				2488	10	34	360	2,56	10	36	360	2,56
					100	5			100	4		
			2489	10	27	290	2,46	10	41	440	2,64	
				100	5			100	7			
			2490	10	25	260	2,41	10	39	370	2,57	
				100	4			100	2			
			2	2491	100	32	3200	3,51	100	120	12000	4,08
					1000	3			1000	11		
				2492	100	59	5500	3,74	1000	29	27000	4,43
					1000	2			10000	1		
				2493	100	30	3100	3,49	100	106	11000	4,04
					1000	4			1000	11		
			2494	100	81	7800	3,89	100	104	11000	4,04	
				1000	5			1000	16			
	2495		100	64	6300	3,80	100	119	12000	4,08		
			1000	5			1000	10				
	3		2496	1000	39	38000	4,58	1000	119	120000	5,08	
				10000	3			10000	10			
			2497	1000	25	25000	4,40	1000	119	120000	5,08	
				10000	2			10000	11			
2498			1000	68	68000	4,83	1000	97	95000	4,98		
			10000	7			10000	8				
2499	1000		39	40000	4,60	1000	99	96000	4,98			
	10000		5			10000	7					
2500	1000		62	61000	4,79	1000	102	97000	4,99			
	10000		5			10000	5					

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C				Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
				Dilution	CFU/plate	CFU/g	log CFU/g				
Pasteurised cheese (Camembert) Batch 1 Aerobic mesophilic flora: 1,2.10 ⁶ CFU/g	<i>E. coli</i> 14	1	2291	10	51	490	2,69	10	38	360	2,56
				100	3			100	2		
			2292	10	42	460	2,66	10	42	400	2,60
				100	8			100	2		
			2293	10	24	250	2,40	10	42	420	2,62
				100	3			100	0		
			2294	10	39	390	2,59	10	36	360	2,56
				100	4			100	4		
			2295	10	43	430	2,63	10	47	480	2,68
				100	4			100	6		
		2	2296	100	112	11000	4,04	100	81	8600	3,93
				1000	8			1000	14		
			2297	100	137	13000	4,11	100	100	10000	4,00
				1000	10			1000	15		
			2298	100	96	9200	3,96	100	88	9400	3,97
				1000	5			1000	15		
			2299	100	110	10000	4,00	100	88	8500	3,93
				1000	4			1000	5		
			2300	100	115	11000	4,04	100	110	11000	4,04
				1000	4			1000	16		
		3	2301	1000	129	130000	5,11	1000	123	120000	5,08
				10000	4			10000	13		
			2302	1000	122	120000	5,08	1000	116	120000	5,08
				10000	5			10000	18		
			2303	1000	71	72000	4,86	1000	117	120000	5,08
				10000	8			10000	15		
			2304	1000	136	130000	5,11	1000	109	110000	5,04
				10000	8			10000	13		
			2305	1000	86	89000	4,95	1000	119	120000	5,08
				10000	12			10000	8		
Pasteurised cheese (Camembert) Batch 2 Aerobic mesophilic flora: 5,8.10 ⁷ CFU/g	<i>E. coli</i> 14	1	2306	10	46	450	2,65	10	23	230	2,36
				100	3			100	2		
			2307	10	30	320	2,51	10	43	440	2,64
				100	5			100	5		
			2308	10	45	460	2,66	10	32	320	2,51
				100	5			100	3		
			2309	10	39	360	2,56	10	32	300	2,48
				100	1			100	1		
			2310	10	51	540	2,73	10	37	410	2,61
				100	8			100	8		
		2	2311	100	130	12000	4,08	100	126	13000	4,11
				1000	7			1000	17		
			2312	100	112	11000	4,04	100	96	10000	4,00
				1000	10			1000	16		
			2313	100	95	9700	3,99	100	123	12000	4,08
				1000	12			1000	13		
			2314	100	115	11000	4,04	100	107	10000	4,00
				1000	9			1000	4		
			2315	100	125	12000	4,08	100	101	11000	4,04
				1000	5			1000	16		
		3	2316	1000	94	97000	4,99	1000	102	98000	4,99
				10000	13			10000	6		
			2317	1000	126	120000	5,08	1000	91	92000	4,96
				10000	9			10000	10		
			2318	1000	97	98000	4,99	1000	88	88000	4,94
				10000	11			10000	9		
			2319	1000	110	110000	5,04	1000	101	100000	5,00
				10000	12			10000	11		
			2320	1000	125	120000	5,08	1000	109	110000	5,04
				10000	8			10000	10		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C				Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
				Dilution	CFU/plate	CFU/g	log CFU/g				
Fish terrine Batch 1 Aerobic mesophilic flora: 2,4.10 ² CFU/g	<i>E. coli</i> Ad228	1	2376	10	37	370	2,57	10	23	250	2,40
				100	4			100	4		
			2377	10	30	280	2,45	10	28	320	2,51
				100	1			100	7		
			2378	10	20	200	2,30	10	37	370	2,57
				100	2			100	4		
			2379	10	31	320	2,51	10	23	230	2,36
				100	4			100	2		
			2380	10	35	350	2,54	10	25	360	2,56
				100	3			100	4		
		2	2381	100	119	11000	4,04	100	137	14000	4,15
				1000	7			1000	14		
			2382	100	119	12000	4,08	100	99	9500	3,98
				1000	9			1000	6		
			2383	100	83	8400	3,92	100	103	11000	4,04
				1000	9			1000	13		
			2384	100	89	9200	3,96	100	93	9500	3,98
				1000	12			1000	12		
			2385	100	108	10000	4,00	100	99	10000	4,00
				1000	7			1000	16		
		3	2386	1000	113	110000	5,04	1000	106	100000	5,00
				10000	5			10000	8		
			2387	1000	98	93000	4,97	1000	99	94000	4,97
				10000	4			10000	4		
			2388	1000	91	99000	5,00	1000	91	94000	4,97
				10000	18			10000	12		
			2389	1000	114	110000	5,04	1000	118	120000	5,08
				10000	10			10000	13		
			2390	1000	107	100000	5,00	1000	83	81000	4,91
				10000	7			10000	6		
Fish terrine Batch 2 Aerobic mesophilic flora: 1,4.10 ² CFU/g	<i>E. coli</i> Ad228	1	2391	10	21	220	2,34	10	24	240	2,38
				100	3			100	2		
			2392	10	32	310	2,49	10	34	370	2,57
				100	2			100	7		
			2393	10	25	250	2,40	10	28	260	2,41
				100	2			100	1		
			2394	10	36	340	2,53	10	26	270	2,43
				100	1			100	4		
			2395	10	37	360	2,56	10	26	260	2,41
				100	2			100	3		
		2	2396	100	99	9800	3,99	100	98	9700	3,99
				1000	9			1000	9		
			2397	100	108	10000	4,00	100	96	9500	3,98
				1000	6			1000	8		
			2398	100	94	9000	3,95	100	105	11000	4,04
				1000	5			1000	21		
			2399	100	98	9500	3,98	100	106	11000	4,04
				1000	7			1000	12		
			2400	100	94	9400	3,97	100	108	11000	4,04
				1000	9			1000	16		
		3	2401	1000	73	73000	4,86	1000	91	89000	4,95
				10000	7			10000	7		
			2402	1000	72	73000	4,86	1000	103	100000	5,00
				10000	8			10000	7		
			2403	1000	101	100000	5,00	1000	83	87000	4,94
				10000	12			10000	13		
			2404	1000	90	88000	4,94	1000	90	88000	4,94
				10000	7			10000	7		
			2405	1000	95	94000	4,97	1000	108	110000	5,04
				10000	8			10000	11		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C				Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
				Dilution	CFU/plate	CFU/g	log CFU/g				
Grated carrots Batch 1 Aerobic mesophilic flora: 4.4.10 ⁶ CFU/g	<i>E. coli</i> 9	1	2501	10	61	580	2,76	10	51	530	2,72
				100	3			100	7		
			2502	10	46	460	2,66	10	48	500	2,70
				100	4			100	7		
			2503	10	48	460	2,66	10	40	400	2,60
				100	2			100	4		
		2	2504	10	53	540	2,73	10	51	510	2,71
				100	6			100	5		
			2505	10	47	450	2,65	10	47	460	2,66
				100	2			100	4		
			2506	100	117	12000	4,08	1000	18	21000	4,32
				1000	1			10000	5		
			2507	100	124	12000	4,08	100	116	12000	4,08
				1000	1			1000	17		
			2508	100	150	14000	4,15	100	148	15000	4,18
				1000	6			1000	13		
			2509	100	139	14000	4,15	100	145	14000	4,15
				1000	3			1000	14		
			2510	100	113	11000	4,04	100	142	14000	4,15
				1000	4			1000	9		
		3	2511	1000	128	130000	5,11	1000	106	100000	5,00
				10000	4			10000	9		
			2512	1000	96	96000	4,98	1000	148	150000	5,18
				10000	10			10000	16		
			2513	1000	133	130000	5,11	1000	137	140000	5,15
				10000	10			10000	12		
Grated carrots Batch 2 Aerobic mesophilic flora: 4.4.10 ⁶ CFU/g	<i>E. coli</i> 9	1	2514	1000	122	120000	5,08	1000	127	130000	5,11
				10000	8			10000	17		
			2515	1000	133	130000	5,11	10000	18	170000	5,23
				10000	12			100000	1		
			2516	10	70	680	2,83	10	49	480	2,68
				100	5			100	4		
		2	2517	10	55	550	2,74	10	52	530	2,72
				100	5			100	6		
			2518	10	54	540	2,73	10	61	600	2,78
				100	5			100	5		
			2519	10	46	460	2,66	10	64	630	2,80
				100	5			100	5		
		3	2520	10	48	450	2,65	10	54	560	2,75
				100	1			100	7		
			2521	100	109	11000	4,04	100	84	8800	3,94
				1000	6			1000	13		
			2522	100	144	14000	4,15	100	145	15000	4,18
				1000	3			1000	20		
		2	2523	100	124	12000	4,08	100	147	15000	4,18
				1000	7			1000	16		
			2524	1000	12	11000	4,04	1000	11	11000	4,04
				10000	0			10000	1		
			2525	100	133	13000	4,11	100	129	13000	4,11
				1000	12			1000	19		
		3	2526	1000	82	77000	4,89	10000	18	190000	5,28
				10000	3			100000	3		
			2527	1000	79	74000	4,87	10000	15	150000	5,18
				10000	2			100000	2		
			2528	1000	108	100000	5,00	10000	16	190000	5,28
				10000	7			100000	5		
		2529	2529	1000	93	90000	4,95	1000	148	150000	5,18
				10000	6			10000	20		
		2530	2530	10000	14	140000	5,15	10000	14	150000	5,18
				100000	1			100000	3		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C							
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
Pastry (Custard pastry) Batch 1 Aerobic mesophilic flora: 2,3.10³ CFU/g	<i>E. coli</i> 142	1	2166	10	56	520	2,72	10	64	640	2,81
				100	1			100	6		
			2167	10	57	560	2,75	10	66	660	2,82
				100	5			100	6		
			2168	10	32	350	2,54	10	70	710	2,85
				100	6			100	8		
			2169	10	55	530	2,72	10	51	540	2,73
				100	3			100	8		
			2170	10	58	570	2,76	10	70	670	2,83
				100	5			100	4		
		2	2171	1000	15	14000	4,15	1000	22	20000	4,30
				10000	0			10000	0		
			2172	1000	13	13000	4,11	1000	24	23000	4,36
				10000	1			10000	1		
			2173	1000	19	18000	4,26	1000	19	18000	4,26
				10000	1			10000	1		
			2174	1000	19	18000	4,26	1000	16	15000	4,18
				10000	1			10000	1		
			2175	1000	15	15000	4,18	1000	20	18000	4,26
				10000	2			10000	0		
		3	2176	10000	19	170000	5,23	1000	137	140000	5,15
				100000	0			10000	22		
			2177	1000	132	130000	5,11	10000	13	150000	5,18
				10000	12			100000	3		
			2178	10000	17	160000	5,20	1000	147	150000	5,18
				100000	1			10000	13		
2179			1000	131	130000	5,11	1000	131	130000	5,11	
			10000	14			10000	15			
2180			10000	14	130000	5,11	10000	17	170000	5,23	
			100000	0			100000	2			
Pastry (Custard pastry) Batch 2 Aerobic mesophilic flora: 1,9.10² CFU/g	<i>E. coli</i> 142	1	2181	10	50	520	2,72	10	40	410	2,61
				100	7			100	5		
			2182	10	49	510	2,71	10	76	720	2,86
				100	7			100	3		
			2183	10	56	560	2,75	10	64	650	2,81
				100	6			100	7		
			2184	10	49	510	2,71	10	59	610	2,79
				100	7			100	8		
		2185	10	70	720	2,86	10	69	660	2,82	
			100	9			100	4			
		2	2186	1000	30	28000	4,45	1000	23	22000	4,34
				10000	1			10000	1		
			2187	1000	26	25000	4,40	1000	15	17000	4,23
				10000	2			10000	4		
2188	1000		18	18000	4,26	1000	32	32000	4,51		
	10000		2			10000	3				
2189	1000		21	21000	4,32	1000	24	23000	4,36		
	10000		2			10000	1				
2190	1000	18	16000	4,20	1000	20	20000	4,30			
	10000	0			10000	2					
3	2191	10000	20	190000	5,28	10000	21	220000	5,34		
		100000	1			100000	3				
	2192	10000	16	150000	5,18	1000	146	150000	5,18		
		100000	0			10000	24				
	2193	10000	25	280000	5,45	10000	27	250000	5,40		
		100000	6			100000	1				
	2194	10000	28	250000	5,40	10000	19	170000	5,23		
		100000	0			100000	0				
	2195	10000	24	230000	5,36	10000	34	340000	5,53		
		100000	1			100000	4				

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C							
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
Pellet for cat Batch 1 Aerobic mesophilic flora: 2,0.10 ² CFU/g	<i>E. coli</i> 1	1	3922	10	33	310	2,49	10	22	220	2,34
				100	1			100	2		
			3923	10	31	330	2,52	10	24	250	2,40
				100	5			100	3		
			3924	10	37	370	2,57	10	33	310	2,49
				100	0			100	1		
		2	3925	10	29	310	2,49	10	36	350	2,54
				100	5			100	2		
			3926	10	23	240	2,38	10	36	340	2,53
				100	3			100	1		
			3927	100	96	9600	3,98	100	99	9900	4,00
				1000	10			1000	10		
			3928	100	94	9600	3,98	100	100	9800	3,99
				1000	12			1000	8		
			3929	100	97	10000	4,00	100	114	11000	4,04
				1000	13			1000	11		
			3930	100	90	8800	3,94	100	90	8900	3,95
				1000	7			1000	8		
			3931	100	141	13000	4,11	100	104	10000	4,00
				1000	6			1000	11		
		3	3932	1000	88	85000	4,93	1000	108	110000	5,04
				10000	5			10000	8		
			3933	1000	92	88000	4,94	1000	91	93000	4,97
				10000	5			10000	11		
			3934	1000	72	72000	4,86	1000	82	78000	4,89
				10000	7			10000	4		
			3935	1000	71	73000	4,86	1000	86	86000	4,93
				10000	9			10000	9		
			3936	1000	59	55000	4,74	1000	70	68000	4,83
				10000	1			10000	5		
Pellet for cat Batch 2 Aerobic mesophilic flora: 6,0.10 ² CFU/g	<i>E. coli</i> 1	1	3937	10	18	170	2,23	10	25	260	2,41
				100	1			100	3		
			3938	10	38	380	2,58	10	37	360	2,56
				100	4			100	2		
			3939	10	26	260	2,41	10	25	250	2,40
				100	3			100	2		
		2	3940	10	28	270	2,43	10	22	220	2,34
				100	2			100	2		
			3941	10	38	380	2,58	10	29	290	2,46
				100	0			100	3		
			3942	100	110	10000	4,00	100	84	8700	3,94
				1000	5			1000	12		
			3943	100	78	8600	3,93	100	88	8800	3,94
				1000	17			1000	9		
			3944	100	84	8000	3,90	100	96	9300	3,97
				1000	4			1000	6		
			3945	100	107	11000	4,04	100	104	10000	4,00
				1000	13			1000	9		
		3	3946	100	72	7000	3,85	100	83	8000	3,90
				1000	5			1000	6		
			3947	1000	128	130000	5,11	1000	119	120000	5,08
				10000	15			10000	13		
			3948	1000	86	85000	4,93	1000	80	85000	4,93
				10000	8			10000	13		
			3949	1000	90	85000	4,93	1000	92	90000	4,95
				10000	4			10000	7		
			3950	1000	99	110000	5,04	1000	78	81000	4,91
				10000	19			10000	11		
			3951	1000	79	75000	4,88	1000	85	87000	4,94
				10000	4			10000	11		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm® Select <i>E. coli</i>			
				22h at 42°C							
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm test	CFU/g	log CFU/g
Process water (dairy industry) Batch 1 Aerobic mesophilic flora: 2,1.10 ⁴ CFU/g	<i>E. coli</i> Ad1396	1	3986	10	18	170	2,23	10	26	250	2,40
				100	1			100	1		
			3987	10	21	220	2,34	10	28	260	2,41
				100	3			100	1		
			3988	10	10	100	2,00	10	26	260	2,41
				100	1			100	2		
		2	3989	10	23	230	2,36	10	27	260	2,41
				100	2			100	1		
			3990	10	14	160	2,20	10	30	340	2,53
				100	3			0	7		
			3991	100	34	3200	3,51	100	86	8900	3,95
				1000	1			1000	12		
			3992	100	57	5900	3,77	100	107	11000	4,04
				1000	8			1000	13		
			3993	100	41	3900	3,59	100	84	8500	3,93
				1000	2			1000	9		
			3994	100	57	5500	3,74	100	83	8600	3,93
				1000	3			1000	12		
			3995	100	67	6300	3,80	100	106	10000	4,00
				1000	2			1000	9		
		3	3996	1000	33	31000	4,49	1000	95	92000	4,96
				10000	1			10000	6		
			3997	1000	35	33000	4,52	1000	66	69000	4,84
				10000	1			10000	10		
			3998	1000	38	38000	4,58	1000	67	66000	4,82
				10000	4			10000	6		
Process water (dairy industry) Batch 2 Aerobic mesophilic flora: 1,9.10 ⁷ CFU/g	<i>E. coli</i> Ad1396	1	4001	10	9	90 Ne	1,95 Ne	10	24	240	2,38
				100	0			100	2		
			4002	10	16	160	2,20	10	27	260	2,41
				100	1			100	2		
			4003	10	9	90 Ne	1,95 Ne	10	24	240	2,38
				100	1			100	2		
		2	4004	10	17	180	2,26	10	21	220	2,34
				100	3			100	3		
			4005	10	16	150	2,18	10	19	210	2,32
				100	0			100	4		
			4006	100	28	2700	3,43	100	56	5500	3,74
				1000	2			1000	5		
			4007	100	20	2100	3,32	100	79	7900	3,90
				1000	3			1000	8		
			4008	100	22	2100	3,32	100	64	6500	3,81
				1000	1			1000	8		
		3	4009	100	44	4200	3,62	100	71	6700	3,83
				1000	2			1000	3		
			4010	100	42	4000	3,60	100	64	6400	3,81
				1000	2			1000	6		
			4011	1000	41	41000	4,61	1000	48	48000	4,68
				10000	0			10000	5		
			4012	1000	22	23000	4,36	1000	80	80000	4,90
				10000	3			10000	8		
			4013	1000	28	27000	4,43	1000	72	72000	4,86
				10000	2			10000	7		
			4014	1000	40	41000	4,61	1000	83	89000	4,95
				10000	5			10000	15		
			4015	1000	40	37000	4,57	1000	80	82000	4,91
				10000	1			10000	10		

Appendix F - Accuracy profile study: summarized results

(Food) Category 1		Category 1-Meat products										
(Food) Type 1		Rillettes										
			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
2471-2475	Rillettes	low	130	210	320	300	400	280	360	380	300	340
2486-2490	Rillettes	low	160	170	360	290	260	310	280	360	440	370
2476-2480	Rillettes	intermediate	5400	3500	6500	5500	3000	9500	5800	5900	3500	10000
2491-2495	Rillettes	intermediate	3200	5500	3100	7800	6300	12000	27000	11000	11000	12000
2481-2485	Rillettes	high	55000	24000	62000	62000	52000	110000	110000	130000	98000	120000
2496-2500	Rillettes	high	38000	25000	68000	40000	61000	120000	120000	95000	96000	97000

(Food) Category 3		Category 3 - Seafood										
(Food) Type 3		Fish terrine										
			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
2376-2380	Fish terrine	low	370	280	200	320	350	250	320	370	230	360
2391-2395	Fish terrine	low	220	310	250	340	360	240	370	260	270	260
2381-2385	Fish terrine	intermediate	11000	12000	8400	9200	10000	14000	9500	11000	9500	10000
2396-2400	Fish terrine	intermediate	9800	10000	9000	9500	9400	9700	9500	11000	11000	11000
2386-2390	Fish terrine	high	110000	93000	99000	110000	100000	100000	94000	94000	120000	81000
2401-2405	Fish terrine	high	73000	73000	100000	88000	94000	89000	100000	87000	88000	110000

(Food) Category 5		Category 5 - Egg products and composite food										
(Food) Type 5		Pastries										
			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
2166-2170	Custard pastry	low	520	560	350	530	570	640	660	710	540	670
2181-2185	Custard pastry	low	520	510	560	510	720	410	720	650	610	660
2171-2175	Custard pastry	intermediate	14000	13000	18000	18000	15000	20000	23000	18000	15000	18000
2186-2190	Custard pastry	intermediate	28000	25000	18000	21000	16000	22000	17000	32000	23000	20000
2176-2180	Custard pastry	high	170000	130000	160000	130000	130000	140000	150000	150000	130000	170000
2191-2195	Custard pastry	high	190000	150000	280000	250000	230000	210000	150000	250000	170000	340000

(Food) Category 2		Category 2-Dairy products										
(Food) Type 2		Pasteurised cheese (camembert)										
			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
2291-2295	Pasteurised cheese	low	490	460	250	390	430	360	400	420	360	480
2306-2310	Pasteurised cheese	low	450	320	460	360	540	230	440	320	300	410
2296-2300	Pasteurised cheese	intermediate	11000	13000	9200	10000	11000	8600	10000	94000	85000	11000
2311-2315	Pasteurised cheese	intermediate	12000	11000	97000	11000	12000	13000	10000	12000	10000	11000
2301-2305	Pasteurised cheese	high	130000	120000	720000	130000	89000	120000	120000	120000	110000	120000
2316-2320	Pasteurised cheese	high	97000	120000	98000	110000	120000	98000	92000	88000	100000	110000

(Food) Category 4		Category 4- vegetables										
(Food) Type 4		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
2501-2505	Grated carrots	low	580	460	460	540	450	530	500	400	510	460
2516-2520	Grated carrots	low	680	550	540	460	450	480	530	600	630	560
2506-2510	Grated carrots	intermediate	12000	12000	14000	14000	11000	21000	12000	15000	14000	14000
2521-2525	Grated carrots	intermediate	11000	14000	12000	11000	13000	8800	15000	15000	11000	13000
2511-2515	Grated carrots	high	130000	96000	130000	120000	130000	100000	150000	140000	130000	170000
2526-2530	Grated carrots	high	77000	74000	100000	90000	140000	190000	150000	190000	150000	150000

(Food) Category 6		Category 6- Pet food										
(Food) Type 6		Pellet for cat										
			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
3922-3926	Pellet for cat	low	310	330	370	310	240	220	250	310	350	340
3937-3941	Pellet for cat	low	170	380	260	270	380	260	360	250	220	290
3927-3931	Pellet for cat	intermediate	9600	9600	10000	8800	13000	9900	9800	11000	8900	10000
3942-3946	Pellet for cat	intermediate	10000	8600	8000	11000	7000	8700	8800	9300	10000	8000
3932-3936	Pellet for cat	high	85000	88000	72000	73000	55000	110000	96000	78000	86000	68000
3947-3951	Pellet for cat	high	130000	85000	85000	110000	75000	120000	85000	90000	81000	87000

(Food) Category 7		Category 7- Environmental samples										
(Food) Type 7		Process water (dairy industry)										
			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
3986-3990	Process water (dairy industry)	low	170	220	100	230	160	250	260	260	260	340
4001-4005	Process water (dairy industry)	low	90	160	90	180	150	240	260	240	220	210
3991-3995	Process water (dairy industry)	intermediate	3200	5900	3900	5500	6300	8900	11000	8500	8600	10000
4006-4010	Process water (dairy industry)	intermediate	2700	2100	2100	4200	4000	5500	7900	6500	6700	6400
3996-4000	Process water (dairy industry)	high	31000	33000	38000	62000	65000	92000	69000	66000	90000	74000
4011-4015	Process water (dairy industry)	high	41000	23000	27000	41000	37000	48000	80000	72000	89000	82000

Appendix G – Inclusivity / Exclusivity: raw data

INCLUSIVITY										
No	Strain	Reference	Origin	PCA	Reference method : ISO 16649-2			Alternative method : Petrifilm® Select <i>E. coli</i>		
				log CFU/ml	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies
1	<i>Escherichia coli</i>	1	Toulouse sausage	9,11	9,12	8,98	Blue	8,99	9,13	Blue
2	<i>Escherichia coli</i>	9	Goose rillettes	9,00	9,14	9,13	Blue	8,93	8,89	Blue
3	<i>Escherichia coli</i>	12	Turkey meat	8,95	9,03	9,29	White	8,85	8,81	White
4	<i>Escherichia coli</i>	13	Ground beef	8,94	8,95	8,93	Blue	8,78	8,88	Blue
5	<i>Escherichia coli</i>	14	Raw milk	8,92	9,05	8,97	Blue	9,06	8,99	Blue
6	<i>Escherichia coli</i>	17	Spring water	9,18	9,1	9,03	Blue	9,12	9,13	Blue
7	<i>Escherichia coli</i>	18	Water	8,90	8,95	8,96	Blue turquoise	9,15	8,88	Blue turquoise
8	<i>Escherichia coli</i>	19	Grated carrots	8,86	9,85	8,94	Blue	8,85	8,88	Blue
9	<i>Escherichia coli</i>	21	Cured pork meat	8,85	9,8	8,89	Blue	8,79	8,88	Blue
10	<i>Escherichia coli</i>	70	Mechanically deboned meat	9,11	9,04	8,97	Blue	9,08	9,1	Blue
11	<i>Escherichia coli</i>	91	Ready to eat meal	9,88	>9,48	>9,48	White	>9,48	>9,48	White
12	<i>Escherichia coli</i>	94	Cheese (Bethmal)	9,04	8,99	8,94	Blue	8,96	8,92	Blue
13	<i>Escherichia coli</i>	96	Turkey meat	8,77	8,76	8,86	Blue	8,72	8,81	Blue
14	<i>Escherichia coli</i>	97	Cheese (Bleu de Causse)	9,04	8,94	8,89	Blue	9,03	8,95	Blue
15	<i>Escherichia coli</i>	101	Pork brain	8,98	8,92	8,95	Blue	8,56	8,63	Blue
16	<i>Escherichia coli</i>	108	Ready to eat meal	9,04	8,93	8,84	Blue	8,88	8,92	Blue
17	<i>Escherichia coli</i>	118	Raw milk	8,72	<7,00	<7,00	/	9,17	8,92	Blue turquoise
18	<i>Escherichia coli</i>	121	Cheese (raclette)	8,99	8,98	8,97	Blue turquoise	8,64	8,44	Blue turquoise
19	<i>Escherichia coli</i>	123	Veal liver	9,32	9,44	9,39	Blue turquoise	8,28	8,46	Blue turquoise
20	<i>Escherichia coli</i>	125	Pork liver	8,79	8,76	8,81	Blue turquoise	9,16	8,92	Blue turquoise

INCLUSIVITY										
No	Strain	Reference	Origin	PCA	Reference method : ISO 16649-2			Alternative method : Petrifilm® Select <i>E. coli</i>		
				log CFU/ml	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies
21	<i>Escherichia coli</i>	142	Whole liquid egg product	8,96	9,09	9,09	Very pale blue green	9,30	9,03	Blue turquoise
22	<i>Escherichia coli</i>	143	Mayonnaise	8,89	8,68	8,61	Pale blue	8,87	8,77	Blue
23	<i>Escherichia coli</i>	144	Ready to reheat meal (Paella)	9,04	8,99	8,95	White with blue edges	9,14	8,91	Blue turquoise
24	<i>Escherichia coli</i>	2B	Sausage	8,80	8,92	8,94	Blue turquoise	9,18	8,90	Blue turquoise
25	<i>Escherichia coli</i>	CIP 43888	Unknown	8,86	8,71	8,95	White	8,52	9,71	White
26	<i>Escherichia coli</i>	CIP 54117	Unknown	9,04	8,89	8,81	Blue	8,73	8,76	Blue
27	<i>Escherichia coli</i>	CIP 54127	Unknown	9,08	8,96	9,01	Blue	8,99	9,08	Blue
28	<i>Escherichia coli</i>	CIP 7624	Unknown	9,08	9,14	9,06	Blue	9,11	9,08	Blue
29	<i>Escherichia coli</i>	Ad222	Whole liquid egg product	9,08	9,15	9,15	Pale blue turquoise	9,33	9,09	Blue turquoise
30	<i>Escherichia coli</i>	Ad228	Fish	8,74	9,11	9,14	/	9,39	9,16	Blue turquoise
31	<i>Escherichia coli</i>	Ad233	Raw veal meat	9,15	9,19	9,10	/	9,38	9,07	Blue turquoise

INCLUSIVITY (2021)							
No	Strain	Reference	Origin	Dilution	PCA (CFU/plate)	Reference method : ISO 16649-2	Alternative method : Petrifilm® Select <i>E. coli</i> 22h at 42°C
						(CFU/Plate)	(CFU/Petrifilm)
1	<i>Escherichia coli</i>	CIP 53126	/	-6	>150	28	>150
				-7	24	2	35
				-8	3	0	1
2	<i>Escherichia coli</i>	ATCC 8739	/	-6	>150	112	>150
				-7	32	16	33
				-8	1	1	1
3	<i>Escherichia coli</i>	CIP 103982	/	-6	>150	31 (white colonies)	101
				-7	63	6 (white colonies)	2
				-8	6	0	1
4	<i>Escherichia coli</i>	Ad1383	Swimming pool water	-6	>150	>150 (white colonies)	>150 (white colonies)
				-7	70	39 (white colonies)	66 (white colonies)
				-8	7	3 (white colonies)	7 (white colonies)
5	<i>Escherichia coli</i>	Ad1384	Seafood water	-6	>150	>150	>150
				-7	55	47	63
				-8	5	3	3
6	<i>Escherichia coli</i>	Ad1386	Well water	-6	>150	>150 (white colonies)	>150 (white colonies)
				-7	117	60 (white colonies)	108 (white colonies)
				-8	17	8 (white colonies)	11 (white colonies)
7	<i>Escherichia coli</i>	Ad1422	Infant formula	-6	>150	>150	>150
				-7	72	56	97
				-8	8	8	13
8	<i>Escherichia coli</i>	Ad1458	River water	-6	>150	>150	>150
				-7	>150	>150	>150
				-8	41	40	43
9	<i>Escherichia coli</i>	Ad1816	Raw milk cheese	-6	>150	53	53
				-7	73	5	5
				-8	0	0	0
10	<i>Escherichia coli</i>	Ad2304	Raw ewe milk cheese	-6	>150	>150	>150
				-7	>150	>150	>150

INCLUSIVITY (2021)							
No	Strain	Reference	Origin	Dilution	PCA (CFU/plate)	Reference method : ISO 16649-2	Alternative method : Petrifilm® Select <i>E. coli</i> 22h at 42°C
						(CFU/Plate)	(CFU/Petrifilm)
11	<i>Escherichia coli</i>	Ad2627	Dairy product	-8	86	90	107
				-6	>150	>150	>150
				-7	96	10	73
				-8	13	1	13
12	<i>Escherichia coli</i> O103	Ad3117	Lamb meat	-6	>150	159	>150
				-7	106	18	89
				-8	3	2	13
13	<i>Escherichia coli</i>	Ad1828	Beef meat	-6	>150	>150	>150
				-7	118	57	121
				-8	9	3	16
14	<i>Escherichia coli</i>	Ad1999	Chicken meat	-6	>150	>150 (white colonies)	>150 (white colonies)
				-7	48	33 (white colonies)	34 (white colonies)
				-8	9	1 (white colonies)	8 (white colonies)
15	<i>Escherichia coli</i>	CIP 106878	Water	-6	>150	>150	>150
				-7	75	83	83
				-8	11	8	8
16	<i>Escherichia coli</i>	Ad490	Ground beef	-6	>150	>150	>150
				-7	83	156	>150
				-8	13	22	11
17	<i>Escherichia coli</i>	93	Ready to reheat fish	-6	>150	>150 (white colonies)	>150 (white colonies)
				-7	83	65 (white colonies)	69 (white colonies)
				-8	7	4 (white colonies)	7 (white colonies)
18	<i>Escherichia coli</i>	119	Raw milk	-6	>150	>150	>150
				-7	132	151	138
				-8	9	14	19
19	<i>Escherichia coli</i>	Ad1391	Surface water	-6	>150	>150	>150
				-7	132	110	89
				-8	12	16	6

EXCLUSIVITY										
No	Strain	Reference	Origin	PCA	Reference method : ISO 16649-2			Alternative method : Petrifilm® Select <i>E. coli</i>		
				log CFU/ml	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies	a (log CFU/ml)	b (log CFU/ml)	Aspect of colonies
1	Bacillus subtilis	630	Dairy product	7,45	<5,00	<5,00	/	<5,00	<5,00	/
2	Buttiauxella agrestis	115	Turnips	8,74	8,69	8,70	White	<6,00	<6,00	/
3	Citrobacter diversus	140	Raw milk	9,11	9,23	9,23	White	<6,00	<6,00	/
4	Citrobacter freundii	23	Toulouse sausages	8,99	8,76	8,76	White	<6,00	<6,00	/
5	E. vulneris	127	Raw milk	8,30	<6,00	<6,00	/	<6,00	<6,00	/
6	E. hermanii	395	Raw meat	8,96	<6,00	<6,00	/	<6,00	<6,00	/
7	E. vulneris	132	Veal liver	8,30	<6,00	<6,00	/	<6,00	<6,00	/
8	E. vulneris	134	Liver	8,32	<6,00	<6,00	/	<6,00	<6,00	/
9	Enterobacter aerogenes	CIP 6086	Unknown	8,57	<6,00	<6,00	/	<6,00	<6,00	/
10	Enterobacter agglomerans	62	Flat beans	8,32	<6,00	<6,00	/	<6,00	<6,00	/
11	Enterobacter amnigenus	129	Raw milk	8,52	<6,00	<6,00	/	<6,00	<6,00	/
12	Enterobacter amnigenus	52	Flat beans	8,81	<6,00	<6,00	/	<6,00	<6,00	/
13	Enterococcus faecalis	25	Dairy product	9,00	<6,00	<6,00	/	<6,00	<6,00	/
14	Erwinia carotovora	CIP 103762	Unknown	7,54	<5,00	<5,00	/	<5,00	<5,00	/
15	Klebsiella oxytoca	CIP 7932	Unknown	8,57	<6,00	<6,00	/	<6,00	<6,00	/
16	Klebsiella pneumoniae	114	Turnips	9,00	8,89	8,87	White	<6,00	<6,00	/
17	Lactobacillus casei casei	91L353	Unknown	8,38	<6,00	<6,00	/	<6,00	<6,00	/
18	Proteus vulgaris	56	Food product	8,54	<6,00	<6,00	/	<6,00	<6,00	/
19	Rhanella aquatilis	69	Shellfish	8,86	<6,00	<6,00	/	<6,00	<6,00	/
20	Serratia liquefaciens	26	Egg	8,58	<6,00	<6,00	/	<6,00	<6,00	/
21	Shigella flexneri	CIP 8248	Unknown	8,58	8,62	8,15	White	8,28	8,41	White

EXCLUSIVITY (2021)								
No	Strain	Reference	Origin	Dilution	PCA CFU/plate	Dilution	Reference method : ISO 16649-2	Alternative method : Petrifilm® Select <i>E. coli</i>
							ISO 16649 TBX (CFU/plate)	22h
								<i>E. coli</i> (CFU/Petrifilm)
1-	<i>Escherichia fergusonii</i>	Ad1381	Tap water	-6	>300	-4	>150 (white colonies)	>150 (white colonies)
				-7	>300	-5	>150 (white colonies)	>150 (white colonies)
				-8	73	-6	50 (white colonies)	44 (white colonies)
2-	<i>Enterobacter cloacae</i>	Ad2851	Dairy industry environment	-6	>300	-4	>150 (white colonies)	>150 (white colonies)
				-7	>300	-5	>150 (white colonies)	>150 (white colonies)
				-8	130	-6	85 (white colonies)	43 (white colonies)
3-	<i>Enterobacter aerogenes</i>	Ad2973	Cheese	-6	>300	-4	0	0
				-7	>300	-5	0	0
				-8	40	-6	0	0
4-	<i>Cronobacter sakazakii</i>	Ad2428	Infant cereals	-6	>300	-4	>150 (white colonies)	>150 (white colonies)
				-7	>300	-5	>150 (white colonies)	>150 (white colonies)
				-8	44	-6	47 (white colonies)	40 (white colonies)
5-	<i>Cronobacter condimenti</i>	LMG2848	Spice wheat	-6	>300	-4	>150 (white colonies)	>150 (white colonies)
				-7	304	-5	131 (white colonies)	>150 (white colonies)
				-8	36	-6	19 (white colonies)	22 (white colonies)
6-	<i>Citrobacter werkmanii</i>	Ad3004	Raw milk	-6	>300	-4	0	0
				-7	>300	-5	0	0
				-8	105	-6	0	0
7-	<i>Citrobacter braakii</i>	Ad2701	Squids	-6	>300	-4	>150 (little white colonies)	>150 (little white colonies)
				-7	>300	-5	>150 (little white colonies)	>150 (little white colonies)
				-8	42	-6	13 (little white colonies)	13 (little white colonies)

EXCLUSIVITY (2021)								
No	Strain	Reference	Origin	Dilution	PCA CFU/plate	Dilution	Reference method : ISO 16649-2	Alternative method : Petrifilm® Select <i>E. coli</i>
							ISO 16649 TBX (CFU/plate)	22h
								<i>E. coli</i> (CFU/Petrifilm)
8-	<i>Shimwellia blattae</i>	ATCC 29907	/	-6	>300	-4	0	0
				-7	>300	-5	0	0
				-8	32	-6	0	0
9-	<i>Raoultella terrigena</i>	Ad138	Ta water	-6	>300	-4	0	0
				-7	>300	-5	0	0
				-8	40	-6	0	0

**Appendix H - Inter-laboratory: results obtained by the
collaborators and the expert laboratory**

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
A Mesophilic aerobic flora: 130/g	A5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	A8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	A2	1	80	90	85	1,93	1	78	75	1,88
		10	8	8			10	4		
	A6	1	76	80	80	1,90	1	71	74	1,87
		10	11	9			10	10		
	A3	10	78	61	710	2,85	10	55	660	2,82
		100	6	10			100	17		
	A7	10	88	92	900	2,95	10	76	750	2,88
		100	14	3			100	6		
	A1	100	30	44	3500	3,54	100	47	4600	3,66
		1000	2	0			1000	4		
	A4	100	65	47	5800	3,76	100	55	5500	3,74
		1000	7	9			1000	5		
B Mesophilic aerobic flora 50/ml	B5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	B8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	B2	1	15	4	10	1,00	1	58	56	1,75
		10	0	0			10	4		
	B6	1	63	33	44	1,64	1	66	65	1,81
		10	0	0			10	6		
	B3	10	28	18	210	2,32	10	48	460	2,66
		100	1	0			100	3		
	B7	10	21	3	130	2,11	10	48	470	2,67
		100	4	1			100	4		
	B1	10	10	8	90 e	1,95	100	39	4200	3,62
		100	1	3			1000	7		
	B4	1	81	125	96	1,98	100	34	3700	3,57
		10	1	4			1000	7		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
C	C5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	C8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	C2	1	73	71	73	1,86	1	71	69	1,84
		10	7	9			10	5		
	C6	1	65	61	65	1,81	1	71	65	1,81
		10	9	7			10	0		
	C3	10	43	48	440	2,64	10	57	550	2,74
		100	3	2			100	3		
	C7	10	57	41	480	2,68	10	47	450	2,65
		100	6	2			100	2		
	C1	100	22	28	2400	3,38	100	63	6400	3,81
		1000	2	0			1000	7		
	C4	100	46	40	4000	3,60	100	54	5400	3,73
		1000	3	0			1000	5		

* Laboratory C finds a result higher than $3.0 \cdot 10^8$ CFU/ml: a contamination problem is to be considered.

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
D	D5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	D8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	D2	1	60	77	70	1,85	1	73	70	1,85
		10	9	7			10	4		
	D6	1	69	70	67	1,83	1	56	56	1,75
		10	5	3			10	6		
	D3	10	53	55	550	2,74	10	47	470	2,67
		100	7	6			100	5		
	D7	10	43	48	450	2,65	10	52	520	2,72
		100	3	4			100	5		
	D1	100	59	85	7400	3,87	100	45	4700	3,67
		1000	6	13			1000	7		
	D4	100	49	44	4600	3,66	100	55	5500	3,74
		1000	4	5			1000	6		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
E	E5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	E8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	E2	1	63	69	65	1,81	1	64	60	1,78
		10	5	5			10	2		
	E6	1	75	70	70	1,85	1	74	69	1,84
		10	4	5			10	2		
	E3	10	64	56	580	2,76	10	48	470	2,67
		100	4	4			100	4		
	E7	10	49	55	510	2,71	10	51	520	2,72
		100	4	4			100	6		
	E1	100	47	44	4300	3,63	100	46	4400	3,64
		1000	2	2			1000	2		
	E4	100	41	55	4800	3,68	100	51	5200	3,72
		1000	3	6			1000	6		
F	F5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	F8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	F2	1	38	42	40	1,60	1	76	77	1,89
		10	3	6			10	9		
	F6	1	59	59	59	1,77	1	55	55	1,74
		10	6	6			10	5		
	F3	10	59	59	550	2,74	10	51	480	2,68
		100	1	2			100	2		
	F7	10	35	49	430	2,63	10	55	540	2,73
		100	3	7			100	4		
	F1	100	27	22	2300	3,36	100	57	5500	3,74
		1000	1	0			1000	3		
	F4	100	39	38	3500	3,54	100	47	4400	3,64
		1000	0	0			1000	1		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
G	G5	1	0	0	<1	0,00	1	0	<1	<1
		10	0	0			10	0		
	G8	1	0	0	<1	0,00	1	0	<1	<1
		10	0	0			10	0		
	G2	1	48	41	43	1,63	1	76	73	1,86
		10	2	4			10	4		
	G6	1	48	59	50	1,70	1	65	71	1,85
		10	1	1			10	13		
	G3	1	236	>300	100	2,00	10	78	760	2,88
		10	7	3			100	5		
	G7	1	294	206	80	1,90	10	59	610	2,79
		10	11	5			100	8		
H	H5	1	0	0	<1	0,00	1	0	<1	<1
		10	0	0			10	0		
	H8	1	0	0	<1	0,00	1	0	<1	<1
		10	0	0			10	0		
	H2	1	66	89	72	1,86	1	73	69	1,84
		10	2	1			10	3		
	H6	1	80	76	73	1,86	1	71	72	1,86
		10	3	2			10	8		
	H3	10	47	29	370	2,57	10	64	650	2,81
		100	3	2			100	7		
	H7	10	23	30	250	2,40	10	47	480	2,68
		100	2	0			100	6		
I	I5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	I8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	I2	1	60	61	65	1,81	1	70	70	1,85
		10	10	12			10	7		
	I6	1	71	71	74	1,87	1	51	52	1,72
		10	11	10			10	6		
	I3	10	86	90	860	2,93	10	68	660	2,82
		100	6	7			100	5		
	I7	10	70	78	730	2,86	10	57	590	2,77
		100	7	6			100	8		
	I1	100	64	60	6000	3,78	100	57	5900	3,77
		1000	4	4			1000	8		
	I4	100	69	63	6700	3,83	100	62	6100	3,79
		1000	7	8			1000	5		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilutio n	CFU/plate a	CFU/plate b	CFU/m l	log CFU/ml	Dilutio n	CFU/plat e	CFU/m l	log CFU/ml
J Mesophilic aerobic flora 450/ml	J5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	J8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	J2	1	84	46	65	1,81	1	65	66	1,82
		10	6	8			10	8		
	J6	1	75	76	75	1,88	1	64	64	1,81
		10	7	8			10	6		
	J3	10	53	56	540	2,73	10	89	890	2,95
		100	6	4			100	9		
	J7	10	61	53	560	2,75	10	64	680	2,83
		100	3	6			100	11		
	J1	100	35	33	3100	3,49	100	50	5000	3,70
		1000	0	0			1000	5		
	J4	100	47	33	3900	3,59	100	65	6800	3,83
		1000	2	3			1000	10		
K Mesophilic aerobic flora 220/ml	K5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	K8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	K2	1	57	64	59	1,77	1	59	59	1,77
		10	4	4			10	6		
	K6	1	68	66	65	1,81	1	71	70	1,85
		10	5	5			10	6		
	K3	10	43	46	440	2,64	10	53	520	2,72
		100	3	4			100	4		
	K7	10	55	53	530	2,72	10	56	560	2,75
		100	4	4			100	5		
	K1	100	21	25	2300	3,36	100	52	5300	3,72
		1000	2	3			1000	6		
	K4	100	30	24	2700	3,43	100	53	5200	3,72
		1000	3	2			1000	4		
L Mesophilic aerobic flora 350/ml	L5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	L8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	L2	1	79	63	70	1,85	1	84	85	1,93
		10	8	4			10	9		
	L6	1	76	71	72	1,86	1	59	55	1,74
		10	1	10			10	1		
	L3	10	44	70	530	2,72	10	52	530	2,72
		100	1	1			100	6		
	L7	10	67	43	530	2,72	1	>150	90 e	1,95
		100	1	5			10	9		
	L1	100	19	26	2000	3,30	100	58	5400	3,73
		1000	0	0			1000	2		
	L4	100	23	21	2000	3,30	100	51	5400	3,73
		1000	0	0			1000	8		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
M	M5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	M8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	M2	1	60	86	77	1,89	1	63	69	1,84
		10	10	13			10	13		
	M6	1	85	82	81	1,91	1	76	73	1,86
		10	6	5			10	4		
	M3	10	76	72	720	2,86	10	57	570	2,76
		100	5	5			100	6		
	M7	10	68	89	790	2,90	10	53	570	2,76
		100	8	8			100	10		
	M1	100	76	80	7700	3,89	100	34	3500	3,54
		1000	7	7			1000	5		
	M4	100	75	70	6900	3,84	100	55	5800	3,76
		1000	4	3			1000	9		
N	N5	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	N8	1	0	0	<1	0,00	1	0	<1	0,00
		10	0	0			10	0		
	N2	1	79	80	77	1,89	1	57	57	1,76
		10	6	4			10	6		
	N6	1	78	70	73	1,86	1	78	75	1,88
		10	7	5			10	5		
	N3	10	22	32	260	2,41	10	63	660	2,82
		100	2	2			100	9		
	N7	10	24	21	210	2,32	10	42	420	2,62
		100	1	0			100	4		
	N1	100	27	27	2600	3,41	100	33	3600	3,56
		1000	2	1			1000	7		
	N4	100	16	12	1300	3,11	100	59	5800	3,76
		1000	1	0			1000	5		

Collaborators	Sample No	Reference method: ISO 16649-2					Alternative method: Petrifilm® Select <i>E. coli</i>			
		Dilution	CFU/plate a	CFU/plate b	CFU/ml	log CFU/ml	Dilution	CFU/plate	CFU/ml	log CFU/ml
ADRIA Mesophilic aerobic flora 380/ml	35	1	0	0	<1	<0	1	0	<1	<0
		10	0	0			10	0		
	36	1	0	0	<1	<0	1	0	<1	<0
		10	0	0			10	0		
	37	1	64	69	65	1,81	1	70	66	1,82
		10	5	4			10	3		
	38	1	64	67	35	1,54	1	58	60	1,78
		10	5	8			10	8		
	39	10	70	63	660	2,82	10	54	560	2,75
		100	5	7			100	7		
	40	10	78	60	680	2,83	10	59	570	2,76
		100	6	5			100	4		
	41	100	82	57	6400	3,81	100	46	4300	3,63
		1000	1	1			1000	1		
	42	100	64	58	5600	3,75	100	50	5200	3,72
		1000	1	0			1000	7		

Appendix I – Artificial contaminations of samples

Extension study 2015

Year of analysis	Sample N°	Product (French name)	Product	Inoculations			
				Strain		Injury applied	Injury evaluation
				Reference	Origin		
2015	4718	Croquettes de volaille pour chien	Pellets for dog (poultry)	<i>Escherichia coli</i> 9	Goose rillettes	HT 56°C 30min	0.89
2015	4719	Croquettes pour chat bœuf, poulet, foie	Pellets for cat (poultry)	<i>Escherichia coli</i> 123	Calf liver	HT 56°C 30min	1.23
2015	4720	Bouchées pour chien au veau et dès de carottes	Pâté for dog	<i>Escherichia coli</i> 2B	Pork	HT 56°C 30min	0.61
2015	4721	Terrine de poulet pour chat	Pâté for cat	<i>Escherichia coli</i> 9	Goose rillettes	HT 56°C 30min	0.89
2015	4908	Croquettes pour chien à la volaille	Pellets for dog (poultry)	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4909	Croquettes pour chat au bœuf	Pellets for cat (beef)	<i>Escherichia coli</i> 70	VSM	TS+10%NaCl	0.50
2015	4910	Pâté pour chien au bœuf et légumes	Pâté for dog (beef)	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4911	Pâté pour chat	Pâté for cat	<i>Escherichia coli</i> 21	Salted pork	TS+10%NaCl	0.50
2015	4975	Biscuits fourrés pour chien	Snack for dog	<i>Escherichia coli</i> 96	Turkey	HT 56°C 30min	0.50
2015	3842	Farine d'agneau	Lamb flour	<i>Escherichia coli</i> 13	Ground beef	HT 56°C 30min	0.40
2015	3843	Creton (farine animale)	Animal flour	<i>Escherichia coli</i> 13	Ground beef	HT 56°C 30min	0.40
2015	3844	Chiffonnette Microcut petits pois	Wipe (peas industry)	<i>Escherichia coli</i> 19	Grated carrots	HT 56°C 30min	1.20
2015	3845	Eau de cuisson petits pois	Process water (peas)	<i>Escherichia coli</i> 19	Grated carrots	HT 56°C 30min	1.20
2015	3846	Eau de rinçage casserole cuisson bechamel	Process water (bechamel sauce)	<i>Escherichia coli</i> Ad1393	Water source	HT 56°C 30min	0.40
2015	3906	Chiffonnette table découpe emmenthal	Wipe (cheese industry)	<i>Escherichia coli</i> Ad 1395	Water	HT 56°C 25 min	1.44
2015	4104	Lingette chariot stockage charcuterie	Wipe (delicatessen storage)	<i>Escherichia coli</i> 123	Veal liver	HT 50°C 5 min	0.42
2015	4105	Lingette caisse stockage saucisse	Wipe (delicatessen storage)	<i>Escherichia coli</i> 1	Pork	HT 50°C 10 min	0.40
2015	4106	Lingette plan cuisson riz sushi	Wipe (rice cooking)	<i>Escherichia coli</i> Ad1395	Water	HT 50°C 5 min	0.45
2015	4107	Lingette tapis parage après désinfection	Wipe after cleaning(fish industry)	<i>Escherichia coli</i> Ad1395	Water	HT 50°C 5 min	0.45
2015	4108	Eau de rinçage bac charcuterie	Process water (delicatessen)	<i>Escherichia coli</i> 123	Veal liver	HT 50°C 5 min	0.42
2015	4500	Farine de volaille	Animal flour	<i>Escherichia coli</i> 124	Veal liver	HT 50°C 5 min	0.42
2015	4565	Chiffonnette table découpe après nettoyage	Wipe after cleaning	<i>Escherichia coli</i> 125	Veal liver	HT 50°C 5 min	0.42
2015	4567	Poussières environnement laitier	Dusts	<i>Escherichia coli</i> Ad1828	Beef meat	HT 50°C 10 min	0.4

Renewal study 2021

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	2691	Osso buco	Veal meat RTRH	<i>E. coli</i> Ad1828	Meat product	Seeding 72h 3°C±2°C	/	6,98	/	1	c
2021	2692	Noix de joue de bœuf	Beef meat RTRH	<i>E. coli</i> Ad1828	Meat product	Seeding 72h 3°C±2°C	/	6,92	/	1	c
2021	2693	Tajine de bœuf	Beef meat RTRH tajine	<i>E. coli</i> Ad2000	Meat product	Seeding 72h 3°C±2°C	/	6,94	/	1	c
2021	2694	Porc au caramel	Pork meat RTRH	<i>E. coli</i> Ad2000	Meat product	Seeding 72h 3°C±2°C	/	7,06	/	1	c
2021	4367	Filet de cabillaud	Fish filet	<i>E. coli</i> Ad1393	Spring water	Seeding 48h 3°C±2°C	/	7,01	/	3	a
2021	4368	Filet de lieu noir	Fish filet	<i>E. coli</i> Ad1393	Spring water	Seeding 48h 3°C±2°C	/	6,95	/	3	a
2021	3962	Crevettes décortiquées crues	Raw peeled shrimps	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,07	/	3	b
2021	3963	Cocktail fruit de mer (moules, calamars, crevettes)	Seafood cocktail	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,16	/	3	b
2021	3964	Saumon atlantique fumé	Smoked salmon	<i>E. coli</i> Ad1389	Sea water	Seeding 48h 3°C±2°C	/	7,02	/	3	b
2021	3965	Filet de maquereaux fumés au bois de hêtre	Smoked mackerel	<i>E. coli</i> Ad1384	Sea water	Seeding 48h 3°C±2°C	/	7	/	3	b
2021	3966	Saumon fumé	Smoked salmon	<i>E. coli</i> Ad1384	Sea water	Seeding 48h 3°C±2°C	/	7,05	/	3	b
2021	2695	Brandade de morue	Codfish brandade	<i>E. coli</i> Ad228	Seafood product	Seeding 72h 3°C±2°C	/	7,01	/	3	c
2021	2696	Coquille au saumon	Salmon shell	<i>E. coli</i> Ad228	Seafood product	Seeding 72h 3°C±2°C	/	6,94	/	3	c
2021	2697	Darnes de saumon d'Ecosse	Salmon steak from Scotland	<i>E. coli</i> Ad1401	Seafood product	Seeding 72h 3°C±2°C	/	6,99	/	3	c
2021	2698	Terrine de saumon	Salmon terrine	<i>E. coli</i> Ad1401	Seafood product	Seeding 72h 3°C±2°C	/	7,01	/	3	c
2021	2699	Purée de patates douces	Sweet potato purée	<i>E. coli</i> Ad19	Vegetable product	Seeding 72h 3°C±2°C	/	6,99	/	4	c
2021	2700	Ecrasé de pomme de terre	Potato purée	<i>E. coli</i> Ad19	Vegetable product	Seeding 72h 3°C±2°C	/	7,12	/	4	c
2021	2701	Radis apéro	RTE radish	<i>E. coli</i> Ad18	Environmental product	Seeding 72h 3°C±2°C	/	7,03	/	4	c
2021	2702	Baby carottes	RTE carrot	<i>E. coli</i> Ad18	Environmental product	Seeding 72h 3°C±2°C	/	6,96	/	4	c

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4076	Galettes épinards pignons	RTRH vegetables galette (spinach and pine nuts)	<i>E. coli</i> Ad1398	Water treatment plant	Seeding 48h 3°C±2°C	/	7,03	/	4	c
2021	4077	Galettes panées sarrasin poireaux boulgour	RTRH vegetables galette (leek, buckwheat and bulgur)	<i>E. coli</i> Ad1398	Water treatment plant	Seeding 48h 3°C±2°C	/	6,96	/	4	c
2021	3967	Religieuse café	Pastry (coffee flavor)	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	7,01	/	5	b
2021	3968	Tutti frutti	Pastry	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	7	/	5	b
2021	3969	Eclair chocolat	Pastry	<i>E. coli</i> 142	Egg products	Seeding 48h 3°C±2°C	/	6,96	/	5	b
2021	3970	Poire belle Hélène	Pastry (pear)	<i>E. coli</i> 143	Egg products	Seeding 48h 3°C±2°C	/	7,1	/	5	b
2021	3971	Tartelette pomme à la normande	Pastry (apple)	<i>E. coli</i> 143	Egg products	Seeding 48h 3°C±2°C	/	6,95	/	5	b
2021	3975	Paëlla volaille et fruit de mer	Paella with meat and seafood	<i>E. coli</i> 123	Meat product	Seeding 48h 3°C±2°C	/	7,01	/	5	c
2021	3976	Paëlla au poulet et fruit de mer	Paella with meat and seafood	<i>E. coli</i> 123	Meat product	Seeding 48h 3°C±2°C	/	6,98	/	5	c
2021	4361	Salade de poulet rôti	RTE salad with chicken	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,85	/	5	c
2021	4362	Salade à base de poulet	RTE salad with chicken	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,88	/	5	c
2021	4363	Filet de poulet et pommes de terre à la sarladaise	RTRH Chicken meat with potatoes and sauces	<i>E. coli</i> 9	Meat product	Seeding 48h 3°C±2°C	/	6,83	/	5	c
2021	4364	Hachis parmentier	RTRH beef meat with purée	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,81	/	5	c
2021	4365	Lasagne bolognaise	RTRH food lasagne with bolognese	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,91	/	5	c
2021	4366	Lasagne bolognaise	RTRH food lasagne with bolognese	<i>E. coli</i> 13	Beef meat	Seeding 48h 3°C±2°C	/	6,91	/	5	c
2021	4290	Croquettes pour chat bœuf/poulet	Pellets for cat (beef/chicken meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,98	/	6	a
2021	4291	Croquettes pour chien volailles/légumes verts	Pellets for dog (chicken meat and vegetables)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,95	/	6	a
2021	4292	Biscuit pour chien bœuf/poulet/agneau	Biscuit for dog (beef, chicken and lamb meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,03	/	6	a
2021	4293	Tablette au bœuf pour chien	Biscuit for dog (beef meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,01	/	6	a

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4294	Pâté pour chat bio poulet	Organic terrine for cat (chicken meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	6,99	/	6	b
2021	4295	Terrine au bœuf pour chien	Terrine for dog (beef meat)	<i>E. coli</i> Ad1915	Meat product	Spiking Heat treatment 56°C 10min	1,9	7,02	/	6	b
2021	4296	Matière première alimentation animal (farine) 42	Raw material for feed (flour)	<i>E. coli</i> Ad233	Meat product	Spiking Heat treatment 56°C 10min	1,4	7	/	6	c
2021	4297	Matière première alimentation animal (farine) 42	Raw material for feed (flour)	<i>E. coli</i> Ad234	Meat product	Spiking Heat treatment 56°C 10min	0,9	7	/	6	c
2021	4298	Matière première alimentation animal	Raw material for feed	<i>E. coli</i> Ad233	Meat product	Spiking Heat treatment 56°C 10min	1,4	6,98	/	6	c
2021	4299	Matière première alimentation animal	Raw material for feed	<i>E. coli</i> Ad234	Meat product	Spiking Heat treatment 56°C 10min	0,9	6,98	/	6	c
2021	4078	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	Process water n°7 (Dairy products industry)	<i>E. coli</i> E17	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4079	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	Process water n°7 (Dairy products industry)	<i>E. coli</i> E17	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4080	Eau de rinçage n°1 (industrie de produits carnés)	Rinse water n°1 (Meat products industry)	<i>E. coli</i> Ad2001	Dairy products	Seeding 48h 3°C±2°C	/	7,07	/	7	b
2021	4081	Eau de rinçage n°1 (industrie de produits carnés)	Rinse water n°1 (Meat products industry)	<i>E. coli</i> Ad2001	Dairy products	Seeding 48h 3°C±2°C	/	7,06	/	7	b
2021	4300	Poussière d'aspirateur de laiterie P51	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	6,86	/	7	c
2021	4301	Poussière d'aspirateur de laiterie P62	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	6,97	/	7	c
2021	4302	Poussière d'aspirateur de laiterie E241	Vacuum dusts (from dairy industry)	<i>E. coli</i> 14	Dairy product	Spiking Heat treatment 56°C 10min	0,6	7	/	7	c
2021	4303	Poussière d'aspirateur de laiterie A12	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	7,03	/	7	c

Year of analysis	Sample N°	Product (French name)	Product	Artificial contaminations				pH		Category	Type
				Strain	Origin	Injury protocol	Injury measurement	before	after		
2021	4304	Poussière d'aspirateur de laiterie A32	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	6,97	/	7	c
2021	4305	Poussière d'aspirateur de laiterie A31	Vacuum dusts (from dairy industry)	<i>E. coli</i> 121	Dairy product	Spiking Heat treatment 56°C 10min	0,4	6,95	/	7	c

Appendix J - sensitivity study - raw results

MEAT PRODUCTS																					
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2							MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate						Category	Type		
				Dilution	CFU/plate		CFU/g		log CFU/g			Dilution	CFU/Petrifilm		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2	
2000	A5	Frozen breast of chicken	/						1.40	1.74	1.57						1.70	1.48	1	a	
2000	A6	Frozen breast of chicken	/						1.30	1.65	1.48						1.95	1.90	1	a	
2000	A10	Meat cutlet	/						1.18	1.18	1.18						<1	1.30	1	a	
2000	A20	Pork breast without rind	/						2.00	2.00	2.00						2.30	2.00	1	a	
2000	A26	Cockerel	/						3.02	3.10	3.06						3.95	2.98	1	a	
2000	A28	Chicken gizzards	/						2.33	2.33	2.33						2.66	2.66	1	a	
2000	A31	chicken	/						1.40	1.60	1.50						1.78	1.78	1	a	
2000	A32	Cockerel	/						1.00	0.66	0.83						1.70	2.04	1	a	
2000	A33	Chicken legs	/						1.18	1.18	1.18						2.13	1.78	1	a	
2000	A71	Duck liver	/						2.85	2.92	2.89						3.00	2.94	1	a	
2000	A72	Chicken heart	/						2.23	2.04	2.14						2.74	2.76	1	a	
2000	A74	Turkey cutlet	/						1.70	1.48	1.59						1.86	2.04	1	a	
2000	A89	Guinea fowl	/						1.98	2.00	1.99						2.42	2.57	1	a	
2000	A90	Cockerel	/						1.48	1.88	1.68						2.32	2.21	1	a	
2000	A91	Chicken cutlet	/						1.18	0.66	0.92						<1	1.00	1	a	
2000	A93	Chicken cutlet	/						1.98	1.90	1.94						2.11	2.20	1	a	
2000	A94	Turkey cutlet	/						2.37	2.43	2.40						2.78	2.75	1	a	
2000	A95	Chicken liver	/						3.35	3.37	3.36						4.76	4.71	1	a	
2000	A113	Turkey cutlet	/						1.3	1.48	1.39						1.70	1.48	1	a	
2000	A11	Sausages	/						1.60	1.70	1.65						1.78	2.15	1	b	
2000	A49	Merquez	/						2.58	2.51	2.55						2.59	2.64	1	b	
2000	A50	Merquez	/						2.49	2.53	2.51						2.66	2.63	1	b	
2000	A51	Merquez	/						2.72	2.71	2.72						2.92	2.97	1	b	
2000	A52	Merquez	/						2.53	2.56	2.55						2.64	2.53	1	b	
2000	A53	Merquez	/						2.44	2.39	2.42						2.69	2.67	1	b	
2000	A55	Sausage meat preparation	/						0.66	1.00	0.83						1.00	1.00	1	b	
2000	A57	Chipolatas	/						0.66	0.66	0.66						<1	1.60	1	b	
2000	A66	Merquez	/						0.66	1.40	1.03						1.30	1.85	1	b	
2000	A68	Toulouse sausages	/						0.66	1.18	0.92						1.30	1.48	1	b	
2000	A75	Chipolatas with aromatic herbs	/						1.18	0.66	0.92						1.48	1.60	1	b	
2000	A110	Chipolatas	/						2.33	2.32	2.33						2.54	2.41	1	b	
2000	A112	Toulouse sausages	/						1.94	2.02	1.98						2.32	2.28	1	b	
2000	A3	Stuffed roast	/						1.00	1.00	1.00						1.70	1.70	1	c	
2000	A12	Veal olive	/						2.00	1.95	1.98						2.30	2.28	1	c	
2000	A39	Veal olive	/						1.13	1.36	1.25						1.95	1.85	1	c	
2000	A73	Chicken gizzards	/						1.00	0.66	0.83						1.00	1.00	1	c	
2021	2691	Veal meat RTRH	Osso buco	10	37		350		2.54			10	44		440	2.64			1	c	
				100	1							100	8								
2021	2692	Beef meat RTRH	Noix de joue de bœuf	100	88		8900		3.95			100	88		8800	3.94			1	c	
				1000	10							1000	5								
2021	2693	Beef meat RTRH tajine	Tajine de bœuf	100	60		5600		3.75			1000	23		23000	4.36			1	c	
				1000	2							10000	4								
2021	2694	Pork meat RTRH	Porc au caramel	1000	>150							1000	>150							1	c
				10000	20		200000		5.3			10000	17		170000	5.23					

2000	A111	Guinea fowl	/						<1	0.70	<1					2.19	1.90	1	a
2000	A114	Chicken cutlet	/						<1	<1	<1					<1	1.80	1	a
2000	A19	Pork tongue	/						1.30	<1	<1					1.78	1.95	1	a
2000	A24	Chicken gizzards	/						1.00	<1	<1					<1	1.70	1	a
2000	A27	Chicken heart	/						<1	1.18	<1					1.95	1.85	1	a
2000	A30	Cockerel	/						1.00	<1	<1					2.13	2.08	1	a
2000	A2	Toulouse sausages	/						<1	<1	<1					<1	<1	1	b
2000	A40	Sausage meat	/						<1	<1	<1					<1	<1	1	b
2000	A54	Sausage meat preparation	/						<1	<1	<1					<1	1.00	1	b
2000	A56	Sausage meat preparation	/						<1	1.18	<1					1.30	<1	1	b
2000	A58	Chipolatas with aromatic herbs	/						<1	1.30	<1					1.48	1.80	1	b
2000	A67	Sausage meat preparation	/						<1	<1	<1					1.80	<1	1	b

Appendix J - sensitivity study - raw results

Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2								MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate								Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution		CFU/Petrifilm		CFU/g		log CFU/g					
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2000	A69	Chipolatas	/						<1	0,66	<1						1,00	<1	1	b		
2000	A38	Veal olive	/						0,66	<1	<1						1,70	1,30	1	c		

DAIRY PRODUCTS																				
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate						Category	Type		
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2
2000	A29	Raw milk	/						1.62	1.71	1.67						1.65	1.61	2	a
2000	A37	Raw milk	/						1.68	1.68	1.68						1.69	1.61	2	a
2000	A43	Raw milk	/						1.72	1.85	1.79						1.97	2.03	2	a
2000	A62	Raw milk	/						-0.04	0.26	0.11						0.48	0.26	2	a
2000	A63	Raw milk	/						0.7	0.50	0.60						0.7	0.56	2	a
2000	A83	Raw milk	/						4.28	4.39	4.34						5.12	5.07	2	a
2000	A84	Raw milk	/						3.05	3.02	3.04						2.94	2.85	2	a
2000	A85	Raw milk	/						0.94	1.26	1.10						1.26	1.37	2	a
2000	A86	Raw milk	/						3.81	3.90	3.86						4.48	4.52	2	a
2000	A87	Raw milk	/						1.83	1.73	1.78						1	1.11	2	a
2000	A88	Raw milk	/						0.50	0.66	0.58						0.66	1.37	2	a
2000	A7	Bethmal	/						1.00	0.70	0.85						1.70	1.85	2	b
2000	A8	Tomme de savoie	/						3.37	3.29	3.33						3.19	3.37	2	b
2000	A13	Crottin de chavignol	/						1.65	1.18	1.42						1.48	1.70	2	b
2000	A14	Camembert	/						4.18	4.40	4.29						4.76	4.76	2	b
2000	A15	Brie de meaux	/						3.29	3.44	3.37						3.71	3.74	2	b
2000	A42	Camembert	/						4.66	4.67	4.67						4.81	4.73	2	b
2000	A44	Brie	/						3.49	3.50	3.50						3.63	3.56	2	b
2000	A45	Farm Munster	/						3.73	3.76	3.75						3.76	3.80	2	b
2000	A59	Camembert	/						1.56	1.77	1.67						1.60	1.60	2	b
2000	A60	Munster	/						2.00	2.18	2.09						2.36	2.26	2	b
2000	A64	Reblochon	/						1.00	0.70	0.85						1	1.30	2	b
2000	A96	Soft white cheese	/						2.73	2.65	2.69						2.70	2.37	2	b
2000	A22	Swiss cheese (raw milk)	/						1.66	1.48	1.57						1.70	2.06	2	c
2000	A99	Fermented milk	/						1.78	1.40	1.59						1.70	1.60	2	c
2000	A100	Soft white cheese	/						1.98	1.70	1.84						1.85	1.30	2	c
2000	A101	Fermented milk	/						2.06	2.10	2.08						1.60	1.30	2	c
2000	A102	Cream	/						1.85	2.04	1.95						2.08	1.70	2	c
2000	A103	Fresh cream	/						2.13	2.10	2.12						2.04	2.06	2	c

2000	A21	Crottin de chavignol	/						1.00	<1	<1						1	<1	2	b
2000	A23	Tomme du nevet	/						<1	<1	<1						<1	<1	2	b
2000	A46	Munster	/						1.00	<1	<1						<1	<1	2	b
2000	A98	Ewe's raw milk cheese	/						<1	<1	<1						1	1.00	2	b
2000	A61	Bethmal	/						0.7	1.18	<1						<1	<1	2	b

SEAFOOD																						
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2								MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate								Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution		CFU/petrifilm		CFU/g		log CFU/g					
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2000	A25	Frozen sardines	/					1.00	1.30	1.15		1000	>150				1.30	1.30	3	a		
2000	A148	Mussels	/					2.16	2.12	2.14							2.60	2.44	3	a		
2000	A149	Clams	/					2.12	2.19	2.16							2.58	2.50	3	a		
2000	A150	Pilchards	/					1.54	1.81	1.68							1.00	1.78	3	a		
2000	A151	Mussels	/					2.53	2.42	2.48							2.59	2.59	3	a		
2000	A152	Mackerel	/					1.48	1.00	1.24							1.30	1.30	3	a		
2000	A153	Cockles	/					1.18	1.30	1.24							1.30	1.78	3	a		
2000	A154	Mussels	/					0.66	1.00	0.83							1.00	1.30	3	a		
2021	4367	Fish filet	Filet de cabillaud	1000	62		62000	4.79				1000	>150				5.26		3	a		
				10000	6							10000	18		180000							
2021	4368	Fish filet	Filet de lieu noir	10000	21		240000	5.38				10000	29		290000		5.46		3	a		
				100000	5							100000	2									
2021	3962	Raw peeled shrimps	Crevettes décortiquées crues	10	38		380	2.58				10	59		590		2.77		3	b		
				100	12							100	6									
				100	99		10000	4.00				100	94		9400		3.97					
2021	3963	Seafood cocktail	Cocktail fruit de mer (moules, calamars, crevettes)	1000	11							1000	8						3	b		
				100	91		9200	3.96				1000	17		17000		4.23		3	b		
				1000	10							10000	2									
2021	3965	Smoked mackerel	Filet de maquereaux fumés au bois de hêtre	1000	67		66000	4.82				1000	97		97000		4.99		3	b		
				10000	6							10000	10									
2021	3966	Smoked salmon	Saumon fumé	1000	11		13000	4.11				1000	11		11000		4.04		3	b		
				10000	3							10000	2									
2000	A4	Frozen fish croquettes	/					2.88	2.86	2.87							3.00	3.14	3	c		
				10	8		80	1.90				10	31		310		2.49		3	c		
2021	2695	Codfish brandade	Brandade de morue	100	0							100	2									
				100	48		4500	3.65				100	68		6800		3.83		3	c		
				1000	2							1000	5									
2021	2697	Salmon steak from Scotland	Darnes de saumon d'Ecosse	100	15		1500	3.18				1000	13		13000		4.11		3	c		
				1000	2							10000	2									
2021	2698	Salmon terrine	Terrine de saumon	1000	39		36000	4.56				1000	98		98000		4.99		3	c		
				10000	1							10000	14									

2000	A35	Frozen shells	/						<1	<1	<1						<1	<1	3	a
2000	A127	Cockles	/						<1	<1	<1						1.30	1.30	3	a
2000	A128	Cockles	/						<1	<1	<1						<1	1.00	3	a
2000	A133	Sea almond	/						<1	<1	<1						<1	<1	3	a
2000	A134	Clams	/						<1	<1	<1						<1	<1	3	a
2000	A135	Cockles	/						<1	<1	<1						<1	<1	3	a
2000	A136	Oysters	/						<1	<1	<1						<1	<1	3	a
2000	A145	Clams	/						<1	<1	<1						<1	<1	3	a
2000	A146	Pilchards	/						<1	<1	<1						<1	<1	3	a
2000	A147	Mackerel	/						<1	<1	<1						<1	<1	3	a
2000	A132	Smoked salmon	/						<1	<1	<1						<1	<1	3	b

VEGETABLES																						
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2								MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate								Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution		CFU/Petrifilm		CFU/g		log CFU/g					
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2000	A76	Cabbage	/						1.65	1.74	1.70							3.13	3.11	4	a	
2000	A77	Endive salad	/						2.81	2.79	2.80							3.09	2.90	4	a	
2000	A78	Green pepper	/						2.47	2.34	2.41							2.44	2.36	4	a	
2000	A79	Red pepper	/						2.04	2.02	2.03							1.95	2.16	4	a	
2000	A80	Parsley	/						3.05	3.05	3.05							2.98	3.02	4	a	
2000	A81	Radish	/						2.06	1.93	2.00							2.04	2.00	4	a	
2000	A82	Potatoes	/						2.00	1.98	1.99							2.15	2.08	4	a	
2000	A131	Red peppers	/						1.18	1.40	1.29							1.60	1.48	4	a	
2000	A138	Brussels sprouts	/						2.34	2.24	2.29							2.54	2.64	4	a	
2000	A139	Spinaches	/						2.29	2.18	2.24							2.82	2.71	4	a	
2000	A142	Brussels sprouts	/						4.45	4.62	4.54							4.43	4.54	4	a	
2000	A143	Spinaches	/						3.74	3.74	3.74							3.68	3.75	4	a	
2000	A1	Buckwheat flour	/						2.02	2.04	2.03							2.04	2.00	4	b	
2000	A34	Buckwheat flour	/						1.65	1.66	1.66							1.78	1.78	4	b	
2000	A47	Frozen mashed potatoes	/						2.06	2.04	2.05							2.00	1.83	4	b	
2000	A92	Frozen spinaches	/						1.85	1.60	1.73							2.21	2.26	4	b	
2000	A97	Frozen spinaches	/						1.48	1.54	1.51							2.20	2.36	4	b	
2000	A104	Frozen Brussels sprouts	/						1.70	1.78	1.74							2.08	2.16	4	b	
2000	A105	Frozen sti-fry vegetable assortment	/						1.70	1.40	1.55							2.15	2.04	4	b	
2000	A106	Frozen vegetable preparation for couscous	/						1.18	1.00	1.09							1.48	1.78	4	b	
2000	A108	Frozen spinaches	/						1.95	1.74	1.85							2.26	1.85	4	b	
2000	A137	Stir-fry vegetable assortment	/						2.15	2.21	2.18							2.64	2.68	4	b	
2000	A140	Vegetable preparation for couscous	/						1.91	1.74	1.83							2.57	2.59	4	b	
2000	A141	Frozen vegetable preparation for couscous	/						4.22	4.33	4.28							4.21	4.23	4	b	
2000	A144	Stir-fry vegetable assortment	/						4.19	4.08	4.14							3.94	3.88	4	b	
2021	2699	Sweet potato purée	Purée de patates douces	10	8		80		1.9			10	36		360		2.56			4	c	
				100	0							100	2									
2021	2700	Potato purée	Ecrasé de pomme de terre	10	47		460		2.66			100	70		7000		3.85			4	c	
				100	4							1000	7									
2021	2701	RTE radish	Radis apéro	100	8		730		2.86			100	78		7800		3.89			4	c	
				1000	0							1000	7									
2021	2702	RTE carrot	Baby carottes	100	13		1200		3.08			1000	29		29000		4.46			4	c	
				1000	0							10000	1									
2021	4076	RTRH vegetables galette (spinach and pine nuts)	Galettes épinards pignons	1000	25		28000		4.45			1000	87		87000		4.94			4	c	
				10000	6							10000	11									
2021	4077	RTRH vegetables galette (leek, buckwheat and bulgur)	Galettes panées sarrazin poireaux boulgour	1000	126		120000		5.08			1000	132		132000		5.12			4	c	
				10000	11							10000	22									
2000	A65	Red pepper	/						1.00	<1	<1							1.60	1.78	4	a	
2000	A70	Soya bean sprouts	/						<1	<1	<1							<1	<1	4	a	
2000	A129	Buckwheat seeds	/						<1	<1	<1							<1	<1	4	a	
2000	A48	Frozen spinach puree	/						<1	<1	<1							<1	<1	4	b	
2000	A107	Frozen sti-fry vegetable assortment	/						<1	1.00	<1							1.60	1.00	4	b	
2000	A109	Frozen vegetable preparation for ratatouille	/						<1	<1	<1							<1	1.00	4	b	
2000	A130	Frozen spinaches	/						<1	<1	<1							1.60	1.48	4	b	

EGG PRODUCTS AND COMPOSITE FOOD																					
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate								Category	Type	
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g					
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			
2000	A16	Liquid egg product	/						2.40	2.95	2.68							2.95	2.95	5	a
2000	A17	Liquid egg product	/						3.44	3.32	3.38							3.56	3.50	5	a
2000	A18	Liquid egg product	/						2.46	2.54	2.50							2.69	2.60	5	a
2000	A115	Liquid egg product	/						1.54	1.60	1.57							1.60	1.60	5	a
2000	A116	Liquid egg product	/						0.70	1.18	0.94							1.60	1.60	5	a
2000	A117	Liquid egg product	/						1.54	1.18	1.36							1.30	1.60	5	a
2000	A118	Liquid egg product	/						1.18	1.00	1.09							1.60	1.60	5	a
2000	A119	Liquid egg product	/						1.00	1.48	1.24							1.30	1.60	5	a
2000	A120	Liquid egg product	/						1.30	1.48	1.39							1.78	1.60	5	a
2000	A121	Liquid egg product	/						1.18	1.30	1.24							1.48	1.70	5	a
2000	A122	Liquid egg product	/						1.60	1.40	1.50							1.30	1.78	5	a
2000	A123	Liquid egg product	/						1.00	1.30	1.15							1.48	1.70	5	a
2000	A124	Liquid egg product	/						1.18	1.18	1.18							1.30	1.48	5	a
2000	A125	Liquid egg product	/						1.88	1.40	1.64							1.85	1.60	5	a
2000	A126	Liquid egg product	/						1.40	1.18	1.29							1.60	1.60	5	a
2000	A155	Liquid egg product	/						2.76	2.81	2.79							2.96	2.91	5	a
2000	A156	Liquid egg product	/						3.44	3.42	3.43							3.42	3.45	5	a
2000	A157	Liquid egg product	/						3.35	3.48	3.42							3.26	3.36	5	a
2000	A158	Liquid egg product	/						3.30	3.24	3.27							3.36	3.45	5	a
2000	A159	Liquid egg product	/						2.51	2.62	2.57							2.73	2.73	5	a
2000	A160	Liquid egg product	/						3.19	3.26	3.23							3.32	3.26	5	a
2000	A161	Liquid egg product	/						2.59	2.63	2.61							2.63	2.72	5	a
2000	A162	Liquid egg product	/						2.64	2.65	2.65							2.82	2.68	5	a
2000	A163	Liquid egg product	/						2.72	2.71	2.72							2.70	2.71	5	a
2000	A164	Liquid egg product	/						3.03	3.02	3.03							2.98	3.04	5	a
2021	3967	Pastry (coffee flavor)	Religieuse café	10	16		160		2.20			10	43		430		2.63			5	b
2021	3968	Pastry	Tutti frutti	100	54		5700		3.76			100	69		6900		3.84			5	b
2021	3969	Pastry	Eclair chocolat	1000	9							1000	8								
2021	3969	Pastry	Eclair chocolat	100	70		6500		3.81			1000	31		31000		4.49			5	b
2021	3970	Pastry (pear)	Poire belle Hélène	1000	2							10000	2								
2021	3970	Pastry (pear)	Poire belle Hélène	10000	21		20000		4.30			1000	35		35000		4.54			5	b
2021	3971	Pastry (apple)	Tartelette pomme à la normande	10000	1							10000	2								
2021	3971	Pastry (apple)	Tartelette pomme à la normande	100000	18		170000		5.23			10000	16		160000		5.20			5	b
2021	3971	Pastry (apple)	Tartelette pomme à la normande	1000000	1							100000	2								
2000	A41	Toasted cheese sandwich with ham	/						1.48	1.40	1.44							1.60	1.48	5	c
2021	3975	Paella with meat and seafood	Paëlla volaille et fruit de mer	1000	38		37000		4.57			1000	122		122000		5.09			5	c
2021	3975	Paella with meat and seafood	Paëlla volaille et fruit de mer	10000	3							10000	8								
2021	3976	Paella with meat and seafood	Paëlla au poulet et fruit de mer	1000	2		2000		3.00			1000	>150								
2021	3976	Paella with meat and seafood	Paëlla au poulet et fruit de mer	10000	0							10000	25		250000		5.40			5	c
2021	4361	RTE salad with chicken	Salade de poulet roti	10	16		160		2.20			10	56		560		2.75			5	c
2021	4361	RTE salad with chicken	Salade de poulet roti	100	2							100	3								
2021	4362	RTE salad with chicken	Salade à base de poulet	100	16		1600		3.20			100	95		9500		3.98			5	c
2021	4362	RTE salad with chicken	Salade à base de poulet	1000	2							1000	18								
2021	4363	RTRH Chicken meat with potatoes and sauces	Filet de poulet et pommes de terre à la salardaise	100	62		5800		3.76			100	>150								
2021	4363	RTRH Chicken meat with potatoes and sauces	Filet de poulet et pommes de terre à la salardaise	1000	2							1000	27		27000		4.43			5	c
2021	4364	RTRH beef meat with purée	Hachis parmentier	10	55		530		2.72			10	>150								
2021	4364	RTRH beef meat with purée	Hachis parmentier	100	3							100	24		2400		3.38			5	c
2021	4365	RTRH food lasagne with bolognese	Lasagne bolognaise	100	61		5600		3.75			100	103		10300		4.01			5	c
2021	4365	RTRH food lasagne with bolognese	Lasagne bolognaise	1000	1							1000	11								
2021	4366	RTRH food lasagne with bolognese	Lasagne bolognaise	1000	33		33000		4.52			1000	100		100000		5.00			5	c
2021	4366	RTRH food lasagne with bolognese	Lasagne bolognaise	10000	3							10000	11								
2000	A9	Dehydrated chicken cream	/						<1	<1	<1							<1	<1	5	c
2000	A36	Frozen goat's milk cheese pizza	/						<1	<1	<1							<1	<1	5	c

PET FOOD																				
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2						MEAN	Alternative method: 3M™ Petrifilm™ Select E.coli Count Plate						Categor y	Type		
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution	CFU/Petrifilm		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1			Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2
2015	4718	Pellets for dog (poultry)	/						1.60	2.00	1.80							6	a	
2015	4908	Pellets for dog (poultry)	/						2.86	2.79	2.83							6	a	
2015	4909	Pellets for cat (beef)	/						3.57	3.51	3.54							6	a	
2015	4975	Snack for dog	/						3.11	3.04	3.08							6	a	
2021	4290	Pellets for cat (beef/chicken meat)	Croquettes pour chat bœuf/poulet	10	10		110		2.04			10	2		20		1.30		6	a
				100	2							100	8							
2021	4291	Pellets for dog (chicken meat and vegetables)	Croquettes pour chien volailles/légumes verts	100	>150		67000		4.83			100	>150						6	a
				1000	67							1000	73		73000	4.86				
2021	4292	Biscuit for dog (beef, chicken and lamb meat)	Biscuit pour chien bœuf/poulet/agneau	1000	>150		200000		5.3			1000	>150						6	a
				10000	20							10000	21		210000	5.32				
2021	4293	Biscuit for dog (beef meat)	Tablette au bœuf pour chien	1000	>150		630000		5.8			1000	>150						6	a
				10000	63							10000	59		590000	5.77				
2015	4720	Pâté for dog	/						3.72	3.81	3.77						3.61	2.69	6	b
2015	4721	Pâté for cat	/						2.40	2.43	2.42						2.64	2.61	6	b
2015	4910	Pâté for dog (beef)	/						3.67	3.76	3.72						3.72	3.56	6	b
2015	4911	Pâté for cat	/						4.00	4.04	4.02						4.04	2.90	6	b
2021	4294	Organic terrine for cat (chicken meat)	Pâté pour chat bio poulet	10	21		200		2.30			10	10		100		2.00		6	b
				100	1							100	2							
2021	4295	Terrine for dog (beef meat)	Terrine au bœuf pour chien	1000	>150		490000		5.69			1000	>150						6	b
				10000	49							10000	74		740000	5.87				
2015	3842	Lamb flour	/						1.60	1.60	1.60						1.70	1.60	6	c
2015	3843	Animal flour	/						1.95	1.78	1.87						1.70	1.60	6	c
2015	4500	Animal flour	/						2.23	2.45	2.34						2.28	2.26	6	c
2021	4296	Raw material for feed (flour)	Matière première alimentation animal (farine) 42	10	60		590		2.77			100	13		1300		3.11		6	c
				100	5							1000	1							
2021	4297	Raw material for feed (flour)	Matière première alimentation animal (farine) 42	1000	56		60000		4.78			1000	67		67000	4.83			6	c
				10000	10							10000	1							
2021	4298	Raw material for feed	Matière première alimentation animal	100	151		15000		4.18			1000	26		26000	4.41			6	c
				1000	9							10000	1							
2021	4299	Raw material for feed	Matière première alimentation animal	1000	120		110000		5.04			1000	137		137000	5.14			6	c
				10000	5							10000	10							
2015	4719	Pellets for cat (poultry)	/						1.00	<1.00	<1.00						1.00	<1.00	6	a
2015	3672	Poultry flour	/						<1.00	<1.00	<1.00						<1.00	<1.00	6	c
2015	3673	Lamb flour	/						<1.00	<1.00	<1.00						<1.00	<1.00	6	c
2015	3674	Animal flour	/						<1.00	<1.00	<1.00						<1.00	<1.00	6	c
2015	3675	Animal flour	/						<1.00	<1.00	<1.00						<1.60	<1.00	6	c

ENVIRONMENTAL SAMPLES																						
Year of analysis	Sample N°	Product	Product (French name)	Reference method: ISO 16649-2								MEAN	Alternative method: 3M™ Petrifilm™ Select <i>E.coli</i> Count Plate								Category	Type
				Dilution	CFU/plate		CFU/g		log CFU/g		Dilution		CFU/Petrifilm		CFU/g		log CFU/g					
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2015	3844	Wipe (peas industry)	/						2.36	2.36	2.36							2.34	2.18	7	a	
2015	4104	Wipe (delicatessen storage)	/						3.60	3.81	3.71							3.59	3.64	7	a	
2015	4105	Wipe (delicatessen storage)	/						2.90	3.11	3.01							3.08	3.15	7	a	
2015	4106	Wipe (rice cooking)	/						2.64	2.79	2.72							2.62	2.66	7	a	
2015	4107	Wipe after cleaning(fish industry)	/						3.40	3.56	3.48							3.41	3.46	7	a	
2015	4565	Wipe after cleaning	/						2.69	2.79	2.74							2.60	2.64	7	a	
2015	3845	Process water (peas)	/						2.23	2.28	2.26							2.15	2.15	7	b	
2015	3846	Process water (bechamel sauce)	/						1.95	1.90	1.93							2.00	1.90	7	b	
2015	4108	Process water (delicatessen)	/						3.20	3.40	3.30							3.08	3.08	7	b	
2021	4078	Process water n°7 (Dairy products industry)	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	100	63		6100		3.79			100	70		7000		3.85			7	b	
				1000	4							1000	8									
2021	4079	Process water n°7 (Dairy products industry)	Eau de process fin de lavage sortie évaporateur (laiterie) n°7	100	114		12000		4.08			100	111		11100		4.05			7	b	
				1000	16							1000	22									
2021	4080	Rinse water n°1 (Meat products industry)	Eau de rinçage n°1 (industrie de produits carnés)	1000	97		98000		4.99			1000	121		121000		5.08			7	b	
				10000	11							10000	15									
2021	4081	Rinse water n°1 (Meat products industry)	Eau de rinçage n°1 (industrie de produits carnés)	1000	105		100000		5.00			1000	131		131000		5.12			7	b	
				100	10							10000	12									
2015	4567	Dusts	/						2.38	2.36	2.37							2.61	2.45	7	c	
2021	4300	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie P51	100	>150		42000		4.62			100	>150									
				1000	42							1000	56		56000		4.75			7	c	
2021	4301	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie P62	1000	>150		380000		5.58			1000	>150									
				10000	38							10000	28		280000		5.45			7	c	
2021	4302	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie E241	1000	>150		1070000		6.03			1000	>150									
				10000	107							10000	125		1250000		6.10			7	c	
2021	4303	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A12	100	5		500		2.7			100	95		9500		3.98			7	c	
				1000	0							1000	7									
2021	4304	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A32	1000	46		45000		4.65			1000	55		55000		4.74			7	c	
				10000	4							10000	7									
2021	4305	Vacuum dusts (from dairy industry)	Poussière d'aspirateur de laiterie A31	1000	114		120000		5.08			1000	114		114000		5.06			7	c	
				10000	16							10000	14									

2015	3906	Wipe (cheese industry)	/						<1.00	1.00	<1.00						1.00	<1.00	7	a
2015	4011	Swab after cleaning (fish industry)	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	a
2015	4012	Swab after cleaning (fish industry)	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	a
2015	4013	Wipe after cleaning(fish industry)	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	a
2015	4014	Wipe after cleaning(fish industry)	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	a
2015	4015	Wipe after cleaning(fish industry)	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	a
2015	4006	Process water (fish industry)	/						<0.00	<0.00	<0.00						<0.00	<0.00	7	b
2015	4007	Process water (fish industry)	/						<0.00	<0.00	<0.00						<0.00	<0.00	7	b
2015	4008	Process water (fish industry)	/						<0.00	<0.00	<0.00						<0.00	<0.00	7	b
2015	4009	Process water (fish industry)	/						<0.00	<0.00	<0.00						<0.00	<0.00	7	b
2015	4010	Process water (fish industry)	/						<0.00	<0.00	<0.00						<0.00	<0.00	7	b
2015	3676	Dusts from egg industry	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	c
2015	3677	Dusts	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	c
2015	3678	Dusts from dairy industry	/						<1.00	<1.00	<1.00						2.08	2.08	7	c
2015	3679	Dusts from dairy industry	/						<1.00	<1.00	<1.00						<1.00	<1.00	7	c

Appendix K - Statistical calculations

Category	Type	#	Matrix	ISO CFU/g	Alternative CFU/g	ISO log CFU/g	Alternative log CFU/g	Mean	Difference	
Meat products	a	A20	Pork breast without rind			2,00	2,30	2,15	0,30	1
	a	A26	Cockerel			3,06	3,95	3,51	0,89	2
	a	A28	Chicken gizzards			2,33	2,66	2,50	0,33	3
	a	A71	Duck liver			2,89	3,00	2,94	0,12	4
	a	A72	Chicken heart			2,14	2,74	2,44	0,61	5
	a	A74	Turkey outlet			1,59	1,86	1,73	0,27	6
	a	A89	Guineafowl			1,99	2,42	2,21	0,43	7
	a	A93	Chicken cutlet			1,94	2,11	2,03	0,17	8
	a	A94	Turkey cutlet			2,40	2,78	2,59	0,38	9
	a	A95	Chicken liver			3,36	4,76	4,06	1,40	10
	b	A11	Sausages			1,65	1,78	1,72	0,13	11
	b	A49	Merquez			2,55	2,59	2,57	0,04	12
	b	A50	Merquez			2,51	2,66	2,59	0,15	13
	b	A51	Merquez			2,72	2,92	2,82	0,21	14
	b	A52	Merquez			2,55	2,64	2,59	0,10	15
	b	A53	Merquez			2,42	2,69	2,55	0,28	16
	b	A110	Chipolatas			2,33	2,54	2,43	0,22	17
	b	A112	Toulouse sausages			1,98	2,32	2,15	0,34	18
	c	A12	Veal olive			1,98	2,30	2,14	0,33	19
	c	2691	Veal meat RTRH			2,54	2,64	2,59	0,10	20
	c	2692	Beef meat RTRH			3,95	3,94	3,95	-0,01	21
	c	2693	Beef meat RTRH tajine			3,75	4,36	4,06	0,61	22
	c	2694	Pork meat RTRH			5,3	5,23	5,27	-0,07	23
Average difference of the category									0,32	
Standard deviation of differences									0,32	
Dairy products	a	A29	Raw milk			1,67	1,65	1,66	-0,02	1
	a	A37	Raw milk			1,68	1,69	1,69	0,01	2
	a	A43	Raw milk			1,79	1,97	1,88	0,19	3
	a	A83	Raw milk			4,34	5,12	4,73	0,79	4
	a	A84	Raw milk			3,04	2,94	2,99	-0,10	5
	a	A86	Raw milk			3,86	4,48	4,17	0,63	6
	b	A8	Tomme de savoie			3,33	3,19	3,26	-0,14	7
	b	A14	Camembert			4,29	4,76	4,53	0,47	8
	b	A15	Brie de meaux			3,37	3,71	3,54	0,35	9
	b	A42	Camembert			4,67	4,81	4,74	0,15	10
	b	A44	Brie			3,50	3,63	3,56	0,14	11
	b	A45	Farm Munster			3,75	3,76	3,75	0,01	12
	b	A60	Munster			2,09	2,36	2,23	0,27	13
	b	A96	Soft white cheese			2,69	2,70	2,70	0,01	14
	c	A22	Swiss cheese (raw milk)			1,57	1,70	1,64	0,13	15
	c	A99	Fermented milk			1,59	1,70	1,65	0,11	16
	c	A100	Soft white cheese			1,84	1,85	1,85	0,01	17
	c	A101	Fermented milk			2,08	1,60	1,84	-0,48	18
	c	A102	Cream			1,95	2,08	2,01	0,14	19
	c	A103	Fresh cream			2,12	2,04	2,08	-0,08	20
Average difference of the category									0,13	
Standard deviation of differences									0,28	
Seafood products	a	A148	Mussels			2,14	2,60	2,37	0,46	1
	a	A149	Clams			2,16	2,58	2,37	0,43	2
	a	A150	Pilchards			1,68	1,00	1,34	-0,68	3
	a	A151	Mussels			2,48	2,59	2,53	0,12	4
	a	4367	Fish filet			4,79	5,26	5,02	0,47	5
	a	4368	Fish filet			5,38	5,46	5,42	0,08	6
	b	3962	Raw peeled shrimps			2,58	2,77	2,68	0,19	7
	b	3963	Seafood cocktail			4,00	3,97	3,99	-0,03	8
	b	3964	Smoked salmon			3,96	4,23	4,10	0,27	9
	b	3965	Smoked mackerel			4,82	4,99	4,90	0,17	10
	b	3966	Smoked salmon			4,11	4,04	4,08	-0,07	11
	c	A4	Frozen fish croquettes			2,87	3,00	2,94	0,13	12
	c	2695	Codfish brandade			1,90	2,49	2,20	0,59	13
	c	2696	Salmon shell			3,65	3,83	3,74	0,18	14
	c	2697	Salmon steak from Scotland			3,18	4,11	3,65	0,93	15
	c	2698	Salmon terrine			4,56	4,99	4,78	0,43	16
Average difference of the category									0,23	
Standard deviation of differences									0,35	
Vegetables	a	A76	Cabbage			1,70	3,13	2,41	1,44	1
	a	A77	Endive salad			2,80	3,09	2,95	0,29	2
	a	A78	Green pepper			2,41	2,44	2,42	0,03	3
	a	A79	Red pepper			2,03	1,95	1,99	-0,08	4
	a	A80	Parsley			3,05	2,98	3,02	-0,07	5
	a	A81	Radish			2,00	2,04	2,02	0,04	6
	a	A82	Potatoes			1,99	2,15	2,07	0,16	7
	a	A138	Brussels sprouts			2,29	2,54	2,42	0,25	8
	a	A139	Spinaches			2,24	2,82	2,53	0,59	9
	a	A142	Brussels sprouts			4,54	4,43	4,48	-0,11	10
	a	A143	Spinaches			3,74	3,68	3,71	-0,06	11
	b	A1	Buckwheat flour			2,03	2,04	2,04	0,01	12
	b	A34	Buckwheat flour			1,66	1,78	1,72	0,13	13
	b	A47	Frozen mashed potatoes			2,05	2,00	2,03	-0,05	14
	b	A92	Frozen spinaches			1,73	2,21	1,97	0,49	15
	b	A104	Frozen Brussels sprouts			1,74	2,08	1,91	0,34	16
	b	A105	Frozen sti-fry vegetable assortment			1,55	2,15	1,85	0,60	17
	b	A108	Frozen spinaches			1,85	2,26	2,05	0,42	18
	b	A137	Stir-fry vegetable assortment			2,18	2,64	2,41	0,46	19
	b	A140	Vegetable preparation for couscous			1,83	2,57	2,20	0,75	20
	b	A141	Frozen vegetable preparation for couscous			4,28	4,21	4,24	-0,07	21

	b	A144	Stir-fry vegetable assortment			4,14	3,94	4,04	-0,20	22
	c	2699	Sweet potato purée			1,9	2,56	2,23	0,66	23
	c	2700	Potato purée			2,66	3,85	3,25	1,19	24
	c	2701	RTE radish			2,86	3,89	3,38	1,03	25
	c	2702	RTE carrot			3,08	4,46	3,77	1,38	26
	c	4076	RTRH vegetables galette (spinach and pine nuts)			4,45	4,94	4,69	0,49	27
	c	4077	RTRH vegetables galette (leek, buckwheat and			5,08	5,12	5,10	0,04	28
	Average difference of the category									0,36
	Standard deviation of differences									0,46
Egg and composite	a	A16	Liquid egg product			2,68	2,95	2,81	0,28	1
	a	A17	Liquid egg product			3,38	3,56	3,47	0,18	2
	a	A18	Liquid egg product			2,50	2,69	2,60	0,19	3
	a	A125	Liquid egg product			1,64	1,85	1,75	0,21	4
	a	A155	Liquid egg product			2,79	2,96	2,87	0,18	5
	a	A156	Liquid egg product			3,43	3,42	3,43	-0,01	6
	a	A157	Liquid egg product			3,42	3,26	3,34	-0,16	7
	a	A158	Liquid egg product			3,27	3,36	3,32	0,09	8
	a	A159	Liquid egg product			2,57	2,73	2,65	0,17	9
	a	A160	Liquid egg product			3,23	3,32	3,27	0,10	10
	a	A161	Liquid egg product			2,61	2,63	2,62	0,02	11
	a	A162	Liquid egg product			2,65	2,82	2,73	0,18	12
	a	A163	Liquid egg product			2,72	2,70	2,71	-0,01	13
	a	A164	Liquid egg product			3,03	2,98	3,00	-0,04	14
	b	3967	Pastry (coffee flavor)			2,20	2,63	2,42	0,43	15
	b	3968	Pastry			3,76	3,84	3,80	0,08	16
	b	3969	Pastry			3,81	4,49	4,15	0,68	17
	b	3970	Pastry (pear)			4,30	4,54	4,42	0,24	18
	b	3971	Pastry (apple)			5,23	5,20	5,22	-0,03	19
	c	3975	Paella with meat and seafood			4,57	5,09	4,83	0,52	20
	c	4361	RTE salad with chicken			2,20	2,75	2,47	0,55	21
	c	4362	RTE salad with chicken			3,20	3,98	3,59	0,78	22
	c	4363	RTRH Chicken meat with potatoes and sauces			3,76	4,43	4,10	0,67	23
	c	4364	RTRH beef meat with purée			2,72	3,38	3,05	0,66	24
	c	4365	RTRH food lasagne with bolognese			3,75	4,01	3,88	0,26	25
	c	4366	RTRH food lasagne with bolognese			4,52	5,00	4,76	0,48	26
	Average difference of the category									0,26
	Standard deviation of differences									0,26
Pet food	a	4908	Pellets for dog (poultry)			2,83	2,81	2,82	-0,02	1
	a	4909	Pellets for cat (beef)			3,54	3,46	3,50	-0,08	2
	a	4975	Snack for dog			3,08	2,73	2,90	-0,35	3
	a	4291	Pellets for dog (chicken meat and vegetables)			4,83	4,86	4,85	0,03	4
	a	4292	Biscuit for dog (beef, chicken and lamb meat)			5,30	5,32	5,31	0,02	5
	a	4293	Biscuit for dog (beef meat)			5,80	5,77	5,79	-0,03	6
	b	4720	Pâté for dog			3,77	3,61	3,69	-0,16	7
	b	4721	Pâté for cat			2,42	2,64	2,53	0,23	8
	b	4910	Pâté for dog (beef)			3,72	3,72	3,72	0,01	9
	b	4911	Pâté for cat			4,02	4,04	4,03	0,02	10
	b	4294	Organic terrine for cat (chicken meat)			2,30	2,00	2,15	-0,30	11
	b	4295	Terrine for dog (beef meat)			5,69	5,87	5,78	0,18	12
	c	3842	Lamb flour			1,60	1,70	1,65	0,10	13
	c	3843	Animal flour			1,87	1,70	1,78	-0,17	14
	c	4500	Animal flour			2,34	2,28	2,31	-0,06	15
	c	4296	Raw material for feed (flour)			2,77	3,11	2,94	0,34	16
	c	4297	Raw material for feed (flour)			4,78	4,83	4,80	0,05	17
	c	4298	Raw material for feed			4,18	4,41	4,30	0,23	18
	c	4299	Raw material for feed			5,04	5,14	5,09	0,10	19
	Average difference of the category									0,01
	Standard deviation of differences									0,17
Environmental samples	a	3844	Wipe (peas industry)			2,36	2,34	2,35	-0,02	1
	a	4104	Wipe (delicatessen storage)			3,71	3,59	3,65	-0,12	2
	a	4105	Wipe (delicatessen storage)			3,01	3,08	3,04	0,08	3
	a	4106	Wipe (rice cooking)			2,72	2,62	2,67	-0,09	4
	a	4107	Wipe after cleaning(fish industry)			3,48	3,41	3,45	-0,07	5
	a	4565	Wipe after cleaning			2,74	2,60	2,67	-0,14	6
	b	3845	Process water (peas)			2,26	2,15	2,20	-0,11	7
	b	3846	Process water (bechamel sauce)			1,93	2,00	1,96	0,08	8
	b	4108	Process water (delicatessen)			3,30	3,08	3,19	-0,22	9
	b	4078	Process water n°7 (Dairy products industry)			3,79	3,85	3,82	0,06	10
	b	4079	Process water n°7 (Dairy products industry)			4,08	4,05	4,06	-0,03	11
	b	4080	Rinse water n°1 (Meat products industry)			4,99	5,08	5,04	0,09	12
	b	4081	Rinse water n°1 (Meat products industry)			5,00	5,12	5,06	0,12	13
	c	4567	Dusts			2,37	2,61	2,49	0,24	14
	c	4300	Vacuum dusts (from dairy industry)			4,62	4,75	4,69	0,13	15
	c	4301	Vacuum dusts (from dairy industry)			5,58	5,45	5,52	-0,13	16
	c	4302	Vacuum dusts (from dairy industry)			6,03	6,10	6,07	0,07	17
	c	4303	Vacuum dusts (from dairy industry)			2,7	3,98	3,34	1,28	18
	c	4304	Vacuum dusts (from dairy industry)			4,65	4,74	4,70	0,09	19
	c	4305	Vacuum dusts (from dairy industry)			5,08	5,06	5,07	-0,02	20
	Average difference of the category									0,06
	Standard deviation of differences									0,31
Average difference all categories									0,21	152
Standard deviation of differences									0,34	

n =	152			
β =	95%		Lower confidence limit	Upper confidence limit
T(0.025;151)=	1,975798924		-0,47	0,89
n =	23			
β =	95%	Meat product	-0,36	1,00
T(0.025;22)=	2,073873068			
n =	20			
β =	95%	Dairy product	-0,47	0,73
T(0.025;19)=	2,093024054			
n =	16			
β =	95%	Seafood	-0,54	1,00
T(0.025;15)=	2,131449546			
n =	28			
β =	95%	Vegetables	-0,59	1,32
T(0.025;29)=	2,045229642			
n =	26			
β =	95%	Egg products and composite food	-0,29	0,80
T(0.025;25)=	2,059538553			
n =	19			
β =	95%	Pet food	-0,37	0,39
T(0.025;18)=	2,10092204			
n =	20			
β =	95%	Environmental sample	-0,60	0,72
T(0.025;19)=	2,093024054			

Results not used in the statistical interpretation

Category	Type	#	Sample	ISO log CFU/g	MA log CFU/g	Mean	Difference	
Meat products	a	A5	Frozen breast of chicken	1,57	1,70	1,64	0,13	<4
	a	A6	Frozen breast of chicken	1,48	1,95	1,71	0,48	<4
	a	A10	Meat cutlet	1,18	1,30	1,24	0,12	<4
	a	A31	chicken	1,50	1,78	1,64	0,28	<4
	a	A32	Cockerel	0,83	1,70	1,27	0,87	<4
	a	A33	Chicken legs	1,18	2,13	1,66	0,95	<4
	a	A90	Cockerel	1,68	2,32	2,00	0,64	<4
	a	A91	Chicken cutlet	0,92	1,00	0,96	0,08	<4
	a	A113	Turkey cutlet	1,39	1,70	1,55	0,31	<4
	a	A111	Guineafowl	0,00	2,19	1,095	2,19	corr
	a	A19	Pork tongue	0,00	1,78	0,89	1,78	corr
	a	A24	Chicken gizzards	0,00	1,70	0,85	1,70	corr
	a	A27	Chicken heart	0,00	1,95	0,975	1,95	corr
	a	A30	Cockerel	0,00	2,13	1,065	2,13	corr
	a	A114	Chicken cutlet	0,00	0,00	0,00	0,00	corr
	b	A55	Sausage meat preparation	0,83	1,00	0,92	0,17	<4
	b	A57	Chipolatas	0,66	1,60	1,13	0,94	<4
	b	A66	Merguez	1,03	1,30	1,17	0,27	<4
	b	A68	Toulouse sausages	0,92	1,30	1,11	0,38	<4
	b	A75	Chipolatas with aromatic herbs	0,92	1,48	1,20	0,56	<4
	b	A58	Chipolatas with aromatic herbs	1,00	1,48	1,24	0,48	corr
	b	A2	Toulouse sausages	1,00	1,00	1,00	0,00	corr
	b	A40	Sausage meat	1,00	1,00	1,00	0,00	corr
	b	A54	Sausage meat preparation	1,00	1,00	1,00	0,00	corr
	b	A56	Sausage meat preparation	1,00	1,00	1,00	0,00	corr
	b	A67	Sausage meat preparation	1,00	1,00	1,00	0,00	corr
	b	A69	Chipolatas	1,00	1,00	1,00	0,00	corr
	c	A3	Stuffed roast	1,00	1,70	1,35	0,70	<4
	c	A39	Veal olive	1,25	1,95	1,60	0,71	<4
	c	A73	Chicken gizzards	0,83	1,00	0,92	0,17	<4
	c	A38	Veal olive	1,00	1,70	1,35	0,70	corr
Dairy products	a	A62	Raw milk	0,11	0,48	0,30	0,37	<4
	a	A63	Raw milk	0,60	0,7	0,65	0,10	<4
	a	A85	Raw milk	1,10	1,26	1,18	0,16	<4
	a	A87	Raw milk	1,78	1	1,39	-0,78	<4
	a	A88	Raw milk	0,58	0,66	0,62	0,08	<4
	b	A7	Bethmal	0,85	1,70	1,28	0,85	<4
	b	A13	Crottin de chavignol	1,42	1,48	1,45	0,06	<4
	b	A59	Camembert	1,67	1,60	1,63	-0,06	<4
	b	A64	Reblochon	0,85	1,00	0,93	0,15	<4
	b	A21	Crottin de chavignol	1,00	1,00	1,00	0,00	<4
	b	A23	Tomme du nevet	1,00	1,00	1,00	0,00	<4
	b	A46	Munster	1,00	1,00	1,00	0,00	<4
	b	A98	Ewe's raw milk cheese	0,00	0,00	0,00	0,00	corr
	b	A61	Bethmal	1,00	0,00	0,50	-1,00	corr
Seafood	a	A25	Frozen sardines	1,15	1,30	1,23	0,15	<4
	a	A152	Mackerel	1,24	1,30	1,27	0,06	<4
	a	A153	Cockles	1,24	1,30	1,27	0,06	<4
	a	A154	Mussels	0,83	1,00	0,92	0,17	<4
	a	A35	Frozen shells	0,00	0,00	0	0,00	corr
	a	A127	Cockles	0,00	1,30	0,65	1,30	corr
	a	A128	Cockles	0,00	0,00	0	0,00	corr
	a	A133	Sea almond	0,00	0,00	0	0,00	corr
	a	A134	Clams	0,00	0,00	0	0,00	corr
	a	A135	Cockles	0,00	0,00	0	0,00	corr
	a	A136	Oysters	0,00	0,00	0	0,00	corr
	a	A145	Clams	0,00	0,00	0	0,00	corr
	a	A146	Pilchards	0,00	0,00	0	0,00	corr
	a	A147	Mackerel	0,00	0,00	0	0,00	corr
	b	A132	Smoked salmon	0,00	0,00	0	0,00	corr
	a	A131	Red peppers	1,29	1,60	1,45	0,31	<4

Vegetables	a	A65	Red pepper	1,00	1,60	1,3	0,60	<4
	a	A70	Soya bean sprouts	0,00	0,00	0	0,00	corr
	a	A129	Buckwheat seeds	0,00	0,00	0	0,00	corr
	b	A97	Frozen spinaches	1,51	2,20	1,86	0,69	<4
	b	A106	Frozen vegetable preparation for couscous	1,09	1,48	1,29	0,39	<4
	b	A130	Frozen spinaches	0,00	1,60	0,8	1,60	corr
	b	A48	Frozen spinach puree	0,00	0,00	0	0,00	corr
	b	A107	Frozen sti-fry vegetable assortment	0,00	1,00	0,5	1,00	corr
Egg product and composite food	b	A109	Frozen vegetable preparation for ratatouille	0,00	0,00	0	0,00	corr
	a	A115	Liquid egg product	1,57	1,60	1,59	0,03	<4
	a	A122	Liquid egg product	1,50	1,30	1,40	-0,20	<4
	a	A116	Liquid egg product	0,94	1,60	1,27	0,66	<4
	a	A117	Liquid egg product	1,36	1,30	1,33	-0,06	<4
	a	A118	Liquid egg product	1,09	1,60	1,35	0,51	<4
	a	A119	Liquid egg product	1,24	1,30	1,27	0,06	<4
	a	A120	Liquid egg product	1,39	1,78	1,59	0,39	<4
	a	A121	Liquid egg product	1,24	1,48	1,36	0,24	<4
	a	A123	Liquid egg product	1,15	1,48	1,32	0,33	<4
	a	A124	Liquid egg product	1,18	1,30	1,24	0,12	<4
	a	A126	Liquid egg product	1,29	1,60	1,45	0,31	<4
	c	A41	Toasted cheese sandwich with ham	1,44	1,60	1,52	0,16	<4
	c	A9	Dehydrated chicken cream	0,00	0,00	0	0,00	corr
	c	3976	Paella with meat and seafood	3,00	5,40	4,20	2,40	<4
Pet food	c	A36	Frozen goat's milk cheese pizza	0,00	0,00	0	0,00	corr
	a	4718	Pellets for dog (poultry)	1,80	0,00	0,90	-1,80	corr
	a	4290	Pellets for cat (beef/chicken meat)	2,04	1,30	1,67	-0,74	<4
	a	4719	Pellets for cat (poultry)	1,00	1,00	1	0,00	<4
	c	3672	Poultry flour	0,00	0,00	0	0,00	corr
	c	3673	Lamb flour	0,00	0,00	0	0,00	corr
	c	3674	Animal flour	0,00	0,00	0	0,00	corr
	c	3675	Animal flour	0,00	0,00	0	0,00	corr
Environmental samples	a	3906	Wipe (cheese industry)	0,00	1,00	0,5	1,00	corr
	a	4011	Swab after cleaning (fish industry)	0,00	0,00	0	0,00	corr
	a	4012	Swab after cleaning (fish industry)	0,00	0,00	0	0,00	corr
	a	4013	Wipe after cleaning(fish industry)	0,00	0,00	0	0,00	corr
	a	4014	Wipe after cleaning(fish industry)	0,00	0,00	0	0,00	corr
	a	4015	Wipe after cleaning(fish industry)	0,00	0,00	0	0,00	corr
	b	4006	Process water (fish industry)	0,00	0,00	0	0,00	corr
	b	4007	Process water (fish industry)	0,00	0,00	0	0,00	corr
	b	4008	Process water (fish industry)	0,00	0,00	0	0,00	corr
	b	4009	Process water (fish industry)	0,00	0,00	0	0,00	corr
	b	4010	Process water (fish industry)	0,00	0,00	0	0,00	corr
	c	3676	Dusts from egg industry	0,00	0,00	0	0,00	corr
	c	3677	Dusts	0,00	0,00	0	0,00	corr
	c	3678	Dusts from dairy industry	0,00	2,08	1,04	2,08	corr
	c	3679	Dusts from dairy industry	0,00	0,00	0	0,00	corr

Appendix L - accuracy profile - raw results

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
				22h at 42°C							
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Rillettes Batch 1 Aerobic mesophilic flora: <2,0.10 CFU/g	<i>E. coli</i> 9	1	2471	10	12	130	2,11	10	23	230	2,36
				100	2			100	8		
			2472	10	21	210	2,32	10	35	350	2,54
				100	2			100	4		
			2473	10	32	320	2,51	10	39	390	2,59
				100	3			100	3		
		2	2474	10	25	300	2,48	10	31	310	2,49
				100	8			100	2		
			2475	10	35	400	2,60	10	33	330	2,52
				100	9			100	4		
			2476	100	54	5400	3,73	100	96	9600	3,98
				1000	5			1000	9		
			2477	100	34	3500	3,54	100	62	6200	3,79
				1000	5			1000	2		
			2478	100	68	6500	3,81	100	62	6200	3,79
				1000	3			1000	3		
			2479	100	56	5500	3,74	100	35	3500	3,54
				1000	4			1000	13		
			2480	100	32	3000	3,48	100	102	10200	4,01
				1000	1			1000	18		
		3	2481	1000	58	55000	4,74	1000	99	99000	5,00
				10000	2			10000	18		
			2482	1000	24	24000	4,38	1000	102	102000	5,01
				10000	2			10000	15		
			2483	1000	62	62000	4,79	1000	123	123000	5,09
				10000	6			10000	18		
			2484	1000	59	62000	4,79	1000	97	97000	4,99
				10000	9			10000	11		
			2485	1000	54	52000	4,72	1000	114	114000	5,06
				10000	3			10000	18		
Rillettes Aerobic mesophilic flora: <2,0.10 CFU/g	<i>E. coli</i> 9	1	2486	10	15	160	2,20	10	30	300	2,48
				100	2			100	4		
			2487	10	18	170	2,23	10	27	270	2,43
				100	1			100	4		
			2488	10	34	360	2,56	10	36	360	2,56
				100	5			100	4		
		2	2489	10	27	290	2,46	10	41	410	2,61
				100	5			100	7		
			2490	10	25	260	2,41	10	39	390	2,59
				100	4			100	2		
			2491	100	32	3200	3,51	100	120	12000	4,08
				1000	3			1000	11		
			2492	100	59	5500	3,74	1000	29	29000	4,46
				1000	2			10000	1		
			2493	100	30	3100	3,49	100	106	10600	4,03
				1000	4			1000	11		
			2494	100	81	7800	3,89	100	104	10400	4,02
				1000	5			1000	18		
		3	2495	100	64	6300	3,80	100	119	11900	4,08
				1000	5			1000	18		
			2496	1000	39	38000	4,58	1000	119	119000	5,08
				10000	3			10000	18		
			2497	1000	25	25000	4,40	1000	119	119000	5,08
				10000	2			10000	11		
			2498	1000	68	68000	4,83	1000	97	97000	4,99
				10000	7			10000	8		
			2499	1000	39	40000	4,60	1000	99	99000	5,00
				10000	5			10000	7		
			2500	1000	62	61000	4,79	1000	102	102000	5,01
				10000	5			10000	5		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>				
								22h at 42°C				
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g	
Pasteurised cheese (Camembert) Batch 1 Aerobic mesophilic flora: 1.2.10 ⁶ CFU/g	<i>E. coli</i> 14	1	2291	10	51	490	2,69	10	38	380	2,58	
				100	3			100	2			
			2292	10	42	460	2,66	10	42	420	2,62	
				100	8			100	2			
			2293	10	24	250	2,40	10	42	420	2,62	
				100	3			100	0			
		2294	10	39	390	2,59	10	36	360	2,56		
			100	4			100	4				
		2295	10	43	430	2,63	10	47	470	2,67		
			100	4			100	6				
		2	2296	100	112	11000	4,04	100	81	8100	3,91	
				1000	8			1000	14			
			2297	100	137	13000	4,11	100	100	10000	4,00	
				1000	10			1000	13			
			2298	100	96	9200	3,96	100	88	8800	3,94	
				1000	5			1000	13			
			2299	100	110	10000	4,00	100	88	8800	3,94	
				1000	4			1000	5			
			2300	100	115	11000	4,04	100	110	11000	4,04	
				1000	4			1000	16			
			3	2301	1000	129	130000	5,11	1000	123	123000	5,09
					10000	4			10000	13		
		2302		1000	122	120000	5,08	1000	116	116000	5,06	
				10000	5			10000	16			
		2303		1000	71	72000	4,86	1000	117	117000	5,07	
				10000	8			10000	13			
		2304		1000	136	130000	5,11	1000	109	109000	5,04	
				10000	8			10000	13			
		2305	1000	86	89000	4,95	1000	119	119000	5,08		
			10000	12			10000	6				
1		2306	10	46	450	2,65	10	23	230	2,36		
			100	3			100	2				
			2307	10	30	320	2,51	10	43	430	2,63	
				100	5			100	5			
			2308	10	45	460	2,66	10	32	320	2,51	
				100	5			100	3			
		2309	10	39	360	2,56	10	32	320	2,51		
			100	1			100	1				
		2310	10	51	540	2,73	10	37	370	2,57		
			100	8			100	6				
2		2311	100	130	12000	4,08	100	126	12600	4,10		
			1000	7			1000	17				
			2312	100	112	11000	4,04	100	96	9600	3,98	
				1000	10			1000	16			
		2313	100	95	9700	3,99	100	123	12300	4,09		
			1000	12			1000	13				
		2314	100	115	11000	4,04	100	107	10700	4,03		
			1000	9			1000	4				
3		2315	100	125	12000	4,08	100	101	10100	4,00		
			1000	5			1000	16				
			2316	1000	94	97000	4,99	1000	102	102000	5,01	
				10000	13			10000	6			
		2317	1000	126	120000	5,08	1000	91	91000	4,96		
			10000	9			10000	16				
		2318	1000	97	98000	4,99	1000	88	88000	4,94		
			10000	11			10000	9				
		2319	1000	110	110000	5,04	1000	101	101000	5,00		
			10000	12			10000	11				
2320		1000	125	120000	5,08	1000	109	109000	5,04			
		10000	8			10000	16					

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
								22h at 42°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Fish terrine Batch 1 Aerobic mesophilic flora: 2,4.10 ⁶ CFU/g	<i>E. coli</i> Ad228	1	2376	10	37	370	2,57	10	23	230	2,36
				100	4			100	4		
			2377	10	30	280	2,45	10	28	280	2,45
				100	1			100	7		
			2378	10	20	200	2,30	10	37	370	2,57
				100	2			100	4		
		2379	10	31	320	2,51	10	23	230	2,36	
			100	4			100	2			
		2	2380	10	35	350	2,54	10	25	250	2,40
				100	3			100	4		
			2381	100	119	11000	4,04	100	137	13700	4,14
				1000	7			1000	14		
			2382	100	119	12000	4,08	100	99	9900	4,00
				1000	9			1000	6		
		2383	100	83	8400	3,92	100	103	10300	4,01	
			1000	9			1000	13			
		3	2384	100	89	9200	3,96	100	93	9300	3,97
				1000	12			1000	12		
			2385	100	108	10000	4,00	100	99	9900	4,00
				1000	7			1000	16		
			2386	1000	113	110000	5,04	1000	106	106000	5,03
				10000	5			10000	8		
		4	2387	1000	98	93000	4,97	1000	99	99000	5,00
				10000	4			10000	4		
2388			1000	91	99000	5,00	1000	91	91000	4,96	
			10000	18			10000	12			
2389			1000	114	110000	5,04	1000	118	118000	5,07	
			10000	10			10000	13			
5		2390	1000	107	100000	5,00	1000	83	83000	4,92	
			10000	7			10000	6			
		1	2391	10	21	220	2,34	10	24	240	2,38
				100	3			100	2		
			2392	10	32	310	2,49	10	34	340	2,53
				100	2			100	7		
2393			10	25	250	2,40	10	28	280	2,45	
			100	2			100	1			
2		2394	10	36	340	2,53	10	26	260	2,41	
			100	1			100	4			
		2395	10	37	360	2,56	10	26	260	2,41	
			100	2			100	3			
		2396	100	99	9800	3,99	100	98	9800	3,99	
			1000	9			1000	9			
3		2397	100	108	10000	4,00	100	96	9600	3,98	
			1000	6			1000	8			
		2398	100	94	9000	3,95	100	105	10500	4,02	
			1000	5			1000	21			
		2399	100	98	9500	3,98	100	106	10600	4,03	
			1000	7			1000	12			
4	2400	100	94	9400	3,97	100	108	10800	4,03		
		1000	9			1000	16				
	2401	1000	73	73000	4,86	1000	91	91000	4,96		
		10000	7			10000	7				
	2402	1000	72	73000	4,86	1000	103	103000	5,01		
		10000	8			10000	7				
5	2403	1000	101	100000	5,00	1000	83	83000	4,92		
		10000	12			10000	13				
	2404	1000	90	88000	4,94	1000	90	90000	4,95		
		10000	7			10000	7				
	2405	1000	95	94000	4,97	1000	108	108000	5,03		
		10000	8			10000	11				

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
								22h at 42°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Grated carrots Batch 1 Aerobic mesophilic flora: 4.4.10 CFU/g	<i>E. coli</i> 9	1	2501	10	61	580	2,76	10	51	510	2,71
				100	3			100	7		
			2502	10	46	460	2,66	10	48	480	2,68
				100	4			100	7		
			2503	10	48	460	2,66	10	40	400	2,60
				100	2			100	4		
		2504	10	53	540	2,73	10	51	510	2,71	
			100	6			100	5			
		2505	10	47	450	2,65	10	47	470	2,67	
			100	2			100	4			
		2	2506	100	117	12000	4,08	1000	18	18000	4,26
				1000	1			10000	5		
			2507	100	124	12000	4,08	100	116	11600	4,06
				1000	1			1000	17		
			2508	100	150	14000	4,15	100	148	14800	4,17
				1000	6			1000	13		
			2509	100	139	14000	4,15	100	145	14500	4,16
				1000	3			1000	14		
			2510	100	113	11000	4,04	100	142	14200	4,15
				1000	4			1000	9		
		3	2511	1000	128	130000	5,11	1000	106	106000	5,03
				10000	4			10000	9		
			2512	1000	96	96000	4,98	1000	148	148000	5,17
				10000	10			10000	18		
			2513	1000	133	130000	5,11	1000	137	137000	5,14
				10000	10			10000	12		
2514			1000	122	120000	5,08	1000	127	127000	5,10	
			10000	8			10000	17			
2515			1000	133	130000	5,11	10000	18	180000	5,26	
			10000	12			100000	1			
1		2516	10	70	680	2,83	10	49	490	2,69	
			100	5			100	4			
		2517	10	55	550	2,74	10	52	520	2,72	
			100	5			100	8			
		2518	10	54	540	2,73	10	61	610	2,79	
			100	5			100	5			
2519		10	46	460	2,66	10	64	640	2,81		
		100	5			100	5				
2		2520	10	48	450	2,65	10	54	540	2,73	
			100	1			100	7			
		2521	100	109	11000	4,04	100	84	8400	3,92	
			1000	6			1000	13			
		2522	100	144	14000	4,15	100	145	14500	4,16	
			1000	3			1000	20			
2523		100	124	12000	4,08	100	147	14700	4,17		
		1000	7			1000	18				
3		2524	1000	12	11000	4,04	1000	11	11000	4,04	
			10000	0			10000	1			
		2525	100	133	13000	4,11	100	129	12900	4,11	
			1000	12			1000	19			
		2526	1000	82	77000	4,89	10000	18	180000	5,26	
			10000	3			100000	3			
2527		1000	79	74000	4,87	10000	15	150000	5,18		
		10000	2			100000	2				
2528		1000	108	100000	5,00	10000	16	160000	5,20		
		10000	7			100000	5				
2529		1000	93	90000	4,95	1000	148	148000	5,17		
		10000	6			10000	20				
2530		10000	14	140000	5,15	10000	14	140000	5,15		
		100000	1			100000	3				

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
								22h at 42°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Pastry (Custard pastry) Batch 1 Aerobic mesophilic flora: 2,3.10 ⁶ CFU/g	<i>E. coli</i> 142	1	2166	10	56	520	2,72	10	64	640	2,81
				100	1			100	0		
			2167	10	57	560	2,75	10	66	660	2,82
				100	5			100	0		
			2168	10	32	350	2,54	10	70	700	2,85
				100	6			100	0		
		2	2169	10	55	530	2,72	10	51	510	2,71
				100	3			100	0		
			2170	10	58	570	2,76	10	70	700	2,85
				100	5			100	0		
			2171	1000	15	14000	4,15	1000	22	22000	4,34
				10000	0			10000	0		
			2172	1000	13	13000	4,11	1000	24	24000	4,38
				10000	1			10000	1		
			2173	1000	19	18000	4,26	1000	19	19000	4,28
				10000	1			10000	1		
		3	2174	1000	19	18000	4,26	1000	16	16000	4,20
				10000	1			10000	1		
			2175	1000	15	15000	4,18	1000	20	20000	4,30
				10000	2			10000	0		
			2176	1000	19	170000	5,23	1000	137	137000	5,14
				100000	0			10000	22		
			2177	1000	132	130000	5,11	10000	13	130000	5,11
				10000	12			10000	3		
			2178	10000	17	160000	5,20	1000	147	147000	5,17
				100000	1			10000	13		
			2179	1000	131	130000	5,11	1000	131	131000	5,12
				10000	14			10000	13		
			2180	10000	14	130000	5,11	10000	17	170000	5,23
				100000	0			100000	2		
Pastry (Custard pastry) Aerobic mesophilic flora: 1,9.10 ⁶ CFU/g	<i>E. coli</i> 142	1	2181	10	50	520	2,72	10	40	400	2,60
				100	7			100	5		
			2182	10	49	510	2,71	10	76	760	2,88
				100	7			100	3		
			2183	10	56	560	2,75	10	64	640	2,81
				100	6			100	7		
		2	2184	10	49	510	2,71	10	59	590	2,77
				100	7			100	8		
			2185	10	70	720	2,86	10	69	690	2,84
				100	9			100	4		
			2186	1000	30	28000	4,45	1000	23	23000	4,36
				10000	1			10000	1		
			2187	1000	26	25000	4,40	1000	15	15000	4,18
				10000	2			10000	4		
			2188	1000	18	18000	4,26	1000	32	32000	4,51
				10000	2			10000	3		
		3	2189	1000	21	21000	4,32	1000	24	24000	4,38
				10000	2			10000	1		
			2190	1000	18	16000	4,20	1000	20	20000	4,30
				10000	0			10000	2		
			2191	10000	20	190000	5,28	10000	21	210000	5,32
				100000	1			100000	3		
			2192	10000	16	150000	5,18	1000	146	146000	5,16
				100000	0			10000	24		
			2193	10000	25	280000	5,45	10000	27	270000	5,43
				100000	6			100000	1		
			2194	10000	28	250000	5,40	10000	19	190000	5,28
				100000	0			100000	0		
			2195	10000	24	230000	5,36	10000	34	340000	5,53
				100000	1			100000	4		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
								22h at 42°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Pellet for cat Batch 1 Aerobic mesophilic flora: 2,0.10 CFU/g	<i>E. coli</i> 1	1	3922	10	33	310	2,49	10	22	220	2,34
				100	1			100	2		
			3923	10	31	330	2,52	10	24	240	2,38
				100	5			100	3		
			3924	10	37	370	2,57	10	33	330	2,52
				100	0			100	1		
		2	3925	10	29	310	2,49	10	36	360	2,56
				100	5			100	2		
			3926	10	23	240	2,38	10	36	360	2,56
				100	3			100	1		
			3927	100	96	9600	3,98	100	99	9900	4,00
				1000	10			1000	10		
		3	3928	100	94	9600	3,98	100	100	10000	4,00
				1000	12			1000	8		
			3929	100	97	10000	4,00	100	114	11400	4,06
				1000	13			1000	11		
			3930	100	90	8800	3,94	100	90	9000	3,95
				1000	7			1000	8		
		3	3931	100	141	13000	4,11	100	104	10400	4,02
				1000	6			1000	11		
			3932	1000	88	85000	4,93	1000	108	108000	5,03
				10000	5			10000	8		
			3933	1000	92	88000	4,94	1000	91	91000	4,96
				10000	5			10000	11		
		3	3934	1000	72	72000	4,86	1000	82	82000	4,91
				10000	7			10000	4		
			3935	1000	71	73000	4,86	1000	86	86000	4,93
				10000	9			10000	9		
			3936	1000	59	55000	4,74	1000	70	70000	4,85
				10000	1			10000	5		
Pellet for cat Batch 2 Aerobic mesophilic flora: 6,0.10 CFU/g	<i>E. coli</i> 1	1	3937	10	18	170	2,23	10	25	250	2,40
				100	1			100	3		
			3938	10	38	380	2,58	10	37	370	2,57
				100	4			100	2		
			3939	10	26	260	2,41	10	25	250	2,40
				100	3			100	2		
		2	3940	10	28	270	2,43	10	22	220	2,34
				100	2			100	2		
			3941	10	38	380	2,58	10	29	290	2,46
				100	0			100	3		
			3942	100	110	10000	4,00	100	84	8400	3,92
				1000	5			1000	12		
		2	3943	100	78	8600	3,93	100	88	8800	3,94
				1000	17			1000	9		
			3944	100	84	8000	3,90	100	96	9600	3,98
				1000	4			1000	6		
			3945	100	107	11000	4,04	100	104	10400	4,02
				1000	13			1000	8		
		3	3946	100	72	7000	3,85	100	83	8300	3,92
				1000	5			1000	6		
			3947	1000	128	130000	5,11	1000	119	119000	5,08
				10000	15			10000	13		
			3948	1000	86	85000	4,93	1000	80	80000	4,90
				10000	8			10000	13		
		3	3949	1000	90	85000	4,93	1000	92	92000	4,96
				10000	4			10000	7		
			3950	1000	99	110000	5,04	1000	78	78000	4,89
				10000	19			10000	11		
			3951	1000	79	75000	4,88	1000	85	85000	4,93
				10000	4			10000	11		

Matrix	Strain	Level	N° sample	Reference method : ISO 16649-2				Alternative method : Petrifilm™ Select <i>E. coli</i>			
								22h at 42°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/Petrifilm	CFU/g	log CFU/g
Process water (dairy industry) Batch 1 Aerobic mesophilic flora: 2.1.10 ⁶ CFU/g	<i>E. coli</i> Ad1396	1	3986	10	18	170	2,23	10	26	260	2,41
				100	1			100	1		
			3987	10	21	220	2,34	10	28	280	2,45
				100	3			100	1		
			3988	10	10	100	2,00	10	26	260	2,41
				100	1			100	2		
		3989	10	23	230	2,36	10	27	270	2,43	
			100	2			100	1			
		2	3990	10	14	160	2,20	10	30	300	2,48
				100	3			100	7		
			3991	100	34	3200	3,51	100	86	8600	3,93
				1000	1			1000	12		
			3992	100	57	5900	3,77	100	107	10700	4,03
				1000	8			1000	13		
		3	3993	100	41	3900	3,59	100	84	8400	3,92
				1000	2			1000	9		
			3994	100	57	5500	3,74	100	83	8300	3,92
				1000	3			1000	12		
			3995	100	67	6300	3,80	100	106	10600	4,03
				1000	2			1000	9		
		4	3996	1000	33	31000	4,49	1000	95	95000	4,98
				10000	1			10000	6		
			3997	1000	35	33000	4,52	1000	66	66000	4,82
				10000	1			10000	10		
			3998	1000	38	38000	4,58	1000	67	67000	4,83
				10000	4			10000	6		
		5	3999	1000	61	62000	4,79	1000	93	93000	4,97
				10000	7			10000	6		
			4000	1000	70	65000	4,81	1000	73	73000	4,86
				10000	2			10000	8		
1	4001		10	9	90	1,95	10	24	240	2,38	
			100	0			100	2			
	4002	10	16	160	2,20	10	27	270	2,43		
		100	1			100	2				
	4003	10	9	90	1,95	10	24	240	2,38		
		100	1			100	2				
	4004	10	17	180	2,26	10	21	210	2,32		
		100	3			100	3				
	4005	10	16	150	2,18	10	19	190	2,28		
		100	0			100	4				
2	4006	100	28	2700	3,43	100	56	5600	3,75		
		1000	2			1000	5				
	4007	100	20	2100	3,32	100	79	7900	3,90		
		1000	3			1000	8				
	4008	100	22	2100	3,32	100	64	6400	3,81		
		1000	1			1000	8				
	4009	100	44	4200	3,62	100	71	7100	3,85		
		1000	2			1000	3				
	4010	100	42	4000	3,60	100	64	6400	3,81		
		1000	2			1000	6				
3	4011	1000	41	41000	4,61	1000	48	48000	4,68		
		10000	0			10000	5				
	4012	1000	22	23000	4,36	1000	80	80000	4,90		
		10000	3			10000	8				
	4013	1000	28	27000	4,43	1000	72	72000	4,86		
		10000	2			10000	7				
	4014	1000	40	41000	4,61	1000	83	83000	4,92		
		10000	5			10000	13				
	4015	1000	40	37000	4,57	1000	80	80000	4,90		
		10000	1			10000	10				

Appendix M - Artificial contaminations

Petrifilm® Select *E. coli* Count plate (SEC)

#	Sample name	Category	Type	Strain			Injury protocol	Mesured stress
				Strain	Code	Origin		
3006067	Beef Bourguignon	Meat product	c	<i>E. coli</i>	UVS777	Ground beef	Seeding 72h at 3±2°C	/
3006068	Raw cow's milk	Dairy product	a	<i>E. coli</i>	VRG144	Raw milk cheese	Seeding 72h at 3±2°C	/
3006069	Lemon cream	Dairy product	c	<i>E. coli</i>	VRG144	Raw milk cheese	Seeding 72h at 3±2°C	/
3005903	Rabbit food	Pet food	a	<i>E. coli</i>	EZN508	Chopped steak	Spiking - 5' 56°C	1,0
3005904	Cat food	Pet food	a	<i>E. coli</i>	EZN508	Chopped steak	Spiking - 5' 56°C	1,0
3005846	Beef pate	Pet food	b	<i>E. coli</i>	EZN508	Chopped steak	Seeding 72h at 3±2°C	/
3005847	Fish jelly	Pet food	b	<i>E. coli</i>	EZN508	Chopped steak	Seeding 72h at 3±2°C	/
3005905	Wheat	Pet food	c	<i>E. coli</i>	EZN508	Chopped steak	Spiking - 5' 56°C	1,0
3005906	Soybean meal	Pet food	c	<i>E. coli</i>	EZN508	Chopped steak	Spiking - 5' 56°C	1,0
3005907	Corn	Pet food	c	<i>E. coli</i>	HMLZ85	Mill environment	Spiking - 5' 56°C	1,0
3006060	Butcher's surface wipe	Environmental samples	a	<i>E. coli</i>	FBV114	Environment	Spiking - 10' 56°C	0,5
3006059	Cheese dairy surface wipe	Environmental samples	a	<i>E. coli</i>	FBV114	Environment	Spiking - 10' 56°C	0,5
3006006	Process water 1	Environmental samples	b	<i>E. coli</i>	FBV114	Environment	Seeding 72h at 3±2°C	/
3006007	Process water 3	Environmental samples	b	<i>E. coli</i>	FBV114	Environment	Seeding 72h at 3±2°C	/
3006061	Bakery dust	Environmental samples	c	<i>E. coli</i>	FBV114	Environment	Spiking - 10' 56°C	0,5
3006062	Plant preparation dust	Environmental samples	c	<i>E. coli</i>	FBV114	Environment	Spiking - 10' 56°C	0,5

Appendix N - relative trueness - raw results and statistical calculations

Category	Type	#	Sample	Strain	Injury protocol	Petrifilm™ Select E.coli Count Plate (SEC) -Visual reading 24h ± 2h-42°C					Petrifilm™ Select E.coli Count Plate (SEC) -Automatic reader (PPRA) 24h ± 2h-42°C				
						dil 1	CFU	dil 2	CFU	Result (CFU/g)	dil 1	CFU	dil 2	CFU	Result (CFU/g)
Meat products	a	300576	Turkey escalope	/	/	-1	>150	-2	17	1,7E+03	-1	>150	-2	16	1,6E+03
	a	3005788	Turkey	/	/	-2	98	-3	17	1,1E+04	-2	92	-3	17	9,9E+03
	b	3005787	Herbed sausage	/	/	-2	83	-3	12	8,6E+03	-2	78	-3	12	8,2E+03
	b	2976971	Merguez	/	/	-2	29	-3	5	3,1E+03	-2	29	-3	0	2,9E+03
	b	3005789	Chicken paupiette	/	/	-1	12	-2	0	1,2E+02	-1	12	-2	0	1,2E+02
	c	3006067	Beef Bourguignon	E. coli UVS777	Seeding	-1	10	-2	0	9,0E+01	-1	10	-2	0	9,0E+01
Dairy products	a	2986176	Raw cow's milk	/	/	-1	100	-2	10	1,0E+03	-1	91	-2	0	9,1E+02
	a	3006068	Raw cow's milk	E. coli VRG144	Seeding	-1	20	-2	2	2,0E+02	-1	19	-2	2	1,9E+02
	b	3005758	Tome nature	/	/	-2	99	-3	16	1,0E+04	-2	98	-3	16	1,0E+04
	b	3005759	Mont d'or au lait cru	/	/	-1	218	-2	16	2,1E+03	-1	189	-2	14	1,9E+03
Seafood	c	3006069	Lemon cream	E. coli VRG144	Seeding	-2	72	-3	10	7,4E+03	-2	69	-3	9	7,1E+03
	a	3005828	Salmon fillet	/	/	-2	9	-3	0	9,0E+02	-2	8	-3	0	8,0E+02
	a	3005829	Lieu Noir	/	/	-3	8	-4	0	8,0E+03	-3	7	-4	0	7,0E+03
	b	3005830	Smoked salmon tartar	/	/	-1	30	-2	3	3,0E+02	-1	28	-2	3	2,8E+02
	b	3005831	Natural smoked mackerel	/	/	-2	22	-3	1	2,2E+03	-2	21	-3	1	2,1E+03
	c	3005832	Potatoes with tuna	/	/	-3	6	-4	0	6,0E+03	-3	6	-4	0	6,0E+03
Vegetables	c	3005833	smoked salmon carpaccio	/	/	-1	37	-2	2	3,7E+02	-1	35	-2	2	3,5E+02
	a	3005834	Pea and carrot	/	/	-1	38	-2	5	3,8E+02	-1	38	-2	5	3,8E+02
	a	3005835	Red Beetroot	/	/	-2	8	-3	0	8,0E+02	-2	8	-3	1	8,0E+02
	b	3005836	Frozen zucchini	/	/	-3	7	-4	0	7,0E+03	-3	7	-4	0	7,0E+03
	b	3005837	Frozen spinach	/	/	-2	8	-3	0	8,0E+02	-2	8	-3	0	8,0E+02
	c	3005761	Mashed potatoes	/	/	-1	19	-2	5	1,9E+02	-1	19	-2	5	1,9E+02
Egg products and composite food	c	3005838	Gratin of potatoes	/	/	-3	15	-4	0	1,5E+04	-3	15	-4	0	1,5E+04
	c	3005839	Macedonia with mayonnaise	/	/	-1	30	-2	4	3,0E+02	-1	29	-2	3	2,9E+02
	a	3005840	Whole egg	/	/	-3	5	-4	0	5,0E+03	-3	5	-4	0	5,0E+03
	a	3005841	Egg white	/	/	-1	34	-2	5	3,4E+02	-1	32	-2	5	3,2E+02
	b	3005842	Mille feuille	/	/	-1	33	-2	3	3,3E+02	-1	27	-2	3	2,7E+02
	b	3005843	Paris brest	/	/	-2	8	-3	1	8,0E+02	-2	8	-3	1	8,0E+02
Pet food	c	3005844	Quiche loraine	/	/	-3	16	-4	0	1,6E+04	-3	16	-4	0	1,6E+04
	c	3005845	Hard-boiled egg mayonnaise	/	/	-2	11	-3	1	1,1E+03	-2	11	-3	0	1,1E+03
	a	3005903	Rabbit food	E. coli EZNS08	Spiking - 5' 56°C	-1	34	-2	6	3,6E+02	-1	18	-2	6	2,2E+02
	a	3005904	Cat food	E. coli EZNS08	Spiking - 5' 56°C	-1	11	-2	3	1,3E+02	-1	11	-2	3	1,3E+02
	b	3005846	Beef pate	E. coli EZNS08	Seeding	-2	71	-3	12	7,5E+03	-2	65	-3	12	7,0E+03
	b	3005847	Fish jelly	E. coli EZNS08	Seeding	-1	93	-2	7	9,3E+02	-1	77	-2	7	7,7E+02
	c	3005784	Wheat flour	/	/	-1	68	-2	10	7,1E+02	-1	67	-2	8	6,7E+02
	c	3005905	Wheat	E. coli EZNS08	Spiking - 5' 56°C	-2	41	-3	8	4,4E+03	-2	40	-3	8	4,4E+03
Environmental samples	c	3005906	Soybean meal	E. coli EZNS08	Spiking - 5' 56°C	-1	42	-2	6	4,4E+02	-1	41	-2	6	4,3E+02
	c	3005907	Corn	E. coli HML265	Spiking - 5' 56°C	-1	10	-2	0	1,0E+02	-1	10	-2	0	1,0E+02
	a	3006060	Butcher's surface wipe	E. coli FBV114	Spiking - 10' 56°C	-1	70	-2	12	7,5E+02	-1	71	-2	14	7,7E+02
	a	3006059	Cheese dairy surface wipe	E. coli FBV114	Spiking - 10' 56°C	-2	71	-3	3	7,1E+03	-2	69	-3	3	6,9E+03
	b	3006006	Process water 1	E. coli FBV114	Seeding	-2	4	-3	0	4,0E+02	-2	4	-3	0	4,0E+02
	b	3006007	Process water 3	E. coli FBV114	Seeding	-2	30	-3	1	3,0E+03	-2	29	-3	1	2,9E+03
	c	3006061	Bakery dust	E. coli FBV114	Spiking - 10' 56°C	-1	70	-2	15	7,7E+02	-1	79	-2	15	8,5E+02
	c	3006062	Plant preparation dust	E. coli FBV114	Spiking - 10' 56°C	-1	79	-2	8	7,9E+02	-1	72	-2	8	7,2E+02

Meat products	a	2976970	Chicken leg	/	/	-3	3	-4	0	3,0E+03	-3	0	-4	0	<1000
	a	2976972	Beef	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	c	2976973	Beef Bourguignon	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	c	2976974	Chicken curry	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
Dairy products	a	2986175	Raw cow's milk	/	/	-1	3	-2	0	3,0E+01	-1	0	-2	0	<10
	c	3005760	White cheese	/	/	-1	1	-2	0	1,0E+01	-1	1	-2	0	1,0E+01
Seafood	a	2986177	Saithe	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	b	3005785	Cat tomato	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
Egg	b	3005762	Chocolate dessert	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	b	2986178	Process water- poultry abattoir	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
Environmental samples	b	2986179	Dairy rinsing water	/	/	-2	0	-2	0	<10	-1	0	-2	0	<10
	c	2986180	Dairy dust	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	c	2986181	Egg product dust	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10
	c	3005793	Butcher's surface	/	/	-1	0	-2	0	<10	-1	0	-2	0	<10

Category	Type	#	Matrix	Manual CFU/g	PPRA CFU/g	Manual log CFU/g	PPRA log CFU/g	Mean	Difference
Meat products	a	300576	Turkey escalope	1700	1600	3,23	3,20	3,22	-0,03
	a	3005788	Turkey	11000	9900	4,04	4,00	4,02	-0,05
	b	3005787	Herbed sausage	8600	8200	3,93	3,91	3,92	-0,02
	b	2976971	Merguez	3100	2900	3,49	3,46	3,48	-0,03
	b	3005789	Chicken paupiette	120	120	2,08	2,08	2,08	0,00
	c	3006067	Beef Bourguignon	90	90	1,95	1,95	1,95	0,00
			Average difference of the category						-0,02
			Standard deviation of differences						0,02
Dairy products	a	2986176	Raw cow's milk	1000	910	3,00	2,96	2,98	-0,04
	a	3006068	Raw cow's milk	200	190	2,30	2,28	2,29	-0,02
	b	3005758	Tome nature	10000	10000	4,00	4,00	4,00	0,00
	b	3005759	Mont d'or au lait cru	2100	1900	3,32	3,28	3,30	-0,04
	c	3006069	Lemon cream	7400	7100	3,87	3,85	3,86	-0,02
			Average difference of the category						-0,02
			Standard deviation of differences						0,02
Seafood products	a	3005828	Salmon fillet	900	800	2,95	2,90	2,93	-0,05
	a	3005829	Lieu Noir	8 000	7 000	3,90	3,85	3,87	-0,06
	b	3005830	Smoked salmon tartar	300	280	2,48	2,45	2,46	-0,03
	b	3005831	Natural smoked mackerel	2 200	2 100	3,34	3,32	3,33	-0,02
	c	3005832	Potatoes with tuna	6 000	6 000	3,78	3,78	3,78	0,00
	c	3005833	smoked salmon carpaccio	370	350	2,57	2,54	2,56	-0,02
			Average difference of the category						-0,03
			Standard deviation of differences						0,02
Vegetables	a	3005834	Pea and carrot	380	380	2,58	2,58	2,58	0,00
	a	3005835	Red Beetroot	800	800	2,90	2,90	2,90	0,00
	b	3005836	Frozen zucchini	7000	7000	3,85	3,85	3,85	0,00
	b	3005837	Frozen spinach	800	800	2,90	2,90	2,90	0,00
	c	3005761	Mashed potatoes	190	190	2,28	2,28	2,28	0,00
	c	3005838	Gratin of potatoes	15000	15000	4,18	4,18	4,18	0,00
	c	3005839	Macedonia with mayonnaise	300	290	2,48	2,46	2,47	-0,01
			Average difference of the category						0,00
			Standard deviation of differences						0,01
Egg and composite	a	3005840	Whole egg	5000	5000	3,70	3,70	3,70	0,00
	a	3005841	Egg white	340	320	2,53	2,51	2,52	-0,03
	b	3005842	Mille feuille	330	270	2,52	2,43	2,47	-0,09
	b	3005843	Paris brest	800	800	2,90	2,90	2,90	0,00
	c	3005844	Quiche lorraine	16000	16000	4,20	4,20	4,20	0,00
	c	3005845	Hard-boiled egg mayonnaise	1100	1100	3,04	3,04	3,04	0,00
			Average difference of the category						-0,02
			Standard deviation of differences						0,04
Pet food	a	3005903	Rabbit food	360	220	2,56	2,34	2,45	-0,21
	a	3005904	Cat food	130	130	2,11	2,11	2,11	0,00
	b	3005846	Beef pate	7500	7000	3,88	3,85	3,86	-0,03
	b	3005847	Fish jelly	930	770	2,97	2,89	2,93	-0,08
	c	3005784	Wheat flour	710	670	2,85	2,83	2,84	-0,03
	c	3005905	Wheat	4400	4400	3,64	3,64	3,64	0,00
	c	3005906	Soybean meal	440	430	2,64	2,63	2,64	-0,01
			Average difference of the category						0,00
			Standard deviation of differences						-0,05
			Standard deviation of differences						0,07
Environmental samples	a	3006060	Butcher's surface wipe	750	770	2,88	2,89	2,88	0,01
	a	3006059	Cheese dairy surface wipe	7100	6900	3,85	3,84	3,85	-0,01
	b	3006006	Process water 1	400	400	2,60	2,60	2,60	0,00
	b	3006007	Process water 3	3000	2900	3,48	3,46	3,47	-0,01
	c	3006061	Bakery dust	770	850	2,89	2,93	2,91	0,04
	c	3006062	Plant preparation dust	790	720	2,90	2,86	2,88	-0,04
			Average difference of the category						0,00
			Standard deviation of differences						0,03
			Average difference all categories						-0,02
			Standard deviation of differences						0,04

n = 44
 $\beta = 95\%$
 $T(0.025;44) = 2,016692199$

Lower confidence limit	Upper confidence limit
-0,10	0,06

Results not used in the statistical interpretation

Category	Type	#	Sample	Manual CFU/g	PPRA CFU/g	Manual log CFU/g	PPRA log CFU/g	Mean	Difference	
Meat products	a	2976970	Chicken leg	3000	<1000	3,48	3,00	3,24	-0,48	corr
	a	2976972	Beef	<10	<10	1,00	1,00	1,00	0,00	corr
	c	2976973	Beef Bourguignon	<10	<10	1,00	1,00	1,00	0,00	corr
	c	2976974	Chicken curry	<10	<10	1,00	1,00	1,00	0,00	corr
Dairy products	a	2986175	Raw cow's milk	30	<10	1,48	1,00	1,24	-0,48	corr
	c	3005760	White cheese	10	10	1,00	1,00	1,00	0,00	<4
Seafood	a	2986177	Saithe	<10	<10	1,00	1,00	1,00	0,00	corr
	b	3005785	Cut tomato	<10	<10	1,00	1,00	1,00	0,00	corr
Egg	b	3005762	Chocolate dessert	<10	<10	1,00	1,00	1,00	0,00	corr
	b	2986178	Process water- poultry abattoir	<10	<10	1,00	1,00	1,00	0,00	corr
	b	2986179	Dairy rinsing water	<10	<10	1,00	1,00	1,00	0,00	corr
	c	2986180	Dairy dust	<10	<10	1,00	1,00	1,00	0,00	corr
	c	2986181	Egg product dust	<10	<10	1,00	1,00	1,00	0,00	corr
Environmental samples	c	3005793	Butcher's surface	<10	<10	1,00	1,00	1,00	0,00	corr

ACCURACY PROFIL

Matrix: Fish Terrine

Enumeration of the microorganisms at 37°C - batch 1: <10 CFU/g

Enumeration of the microorganisms at 37°C - batch 2: <10 CFU/g

Strain: *Escherichia coli*

Level	Batch	R.	Petrifilm™ Rapid Aerobic Count Plate (SEC) -Manual reading 42°C 24h± 2h					Petrifilm™ Rapid Aerobic Count Plate (SEC) - Automatic reader (PPRA) - 42°C 24h± 2h				
			dil 1	CFU	dil 2	CFU	Result (CFU/g)	dil 1	CFU	dil 2	CFU	Result (CFU/g)
Level 1	Batch 1	R1	-1	20	-2	2	2,00E+02	-1	20	-2	2	2,00E+02
		R2	-1	26	-2	3	2,60E+02	-1	26	-2	3	2,60E+02
		R3	-1	23	-2	3	2,30E+02	-1	22	-2	3	2,30E+02
		R4	-1	20	-2	3	2,00E+02	-1	18	-2	3	1,90E+02
		R5	-1	18	-2	4	1,80E+02	-1	18	-2	4	2,00E+02
	Batch 2	R1	-1	25	-2	3	2,50E+02	-1	25	-2	3	2,50E+02
		R2	-1	22	-2	4	2,20E+02	-1	21	-2	4	2,30E+02
		R3	-1	40	-2	2	3,80E+02	-1	39	-2	2	3,70E+02
		R4	-1	30	-2	2	2,90E+02	-1	30	-2	2	2,90E+02
		R5	-1	21	-2	2	2,10E+02	-1	20	-2	2	2,00E+02
Level 2	Batch 1	R1	-2	75	-3	5	7,30E+03	-2	70	-3	5	6,80E+03
		R2	-2	91	-3	6	8,80E+03	-2	88	-3	6	8,50E+03
		R3	-2	72	-3	8	7,30E+03	-2	67	-3	8	7,70E+03
		R4	-2	81	-3	1	7,40E+03	-2	78	-3	1	7,20E+03
		R5	-2	54	-3	6	5,40E+03	-2	53	-3	7	5,40E+03
	Batch 2	R1	-2	67	-3	8	6,70E+03	-2	65	-3	8	6,60E+03
		R2	-2	86	-3	6	8,40E+03	-2	80	-3	6	7,80E+03
		R3	-2	95	-3	10	9,50E+03	-2	89	-3	10	9,00E+03
		R4	-2	79	-3	6	7,70E+03	-2	78	-3	6	7,60E+03
		R5	-2	62	-3	10	6,50E+03	-2	60	-3	10	6,40E+03
Level 3	Batch 1	R1	-3	65	-4	10	6,80E+04	-3	64	-4	10	6,70E+04
		R2	-3	77	-4	7	7,70E+04	-3	73	-4	7	7,30E+04
		R3	-3	63	-4	6	6,30E+04	-3	64	-4	6	6,40E+04
		R4	-3	81	-4	10	8,30E+04	-3	73	-4	10	7,50E+04
		R5	-3	82	-4	9	8,30E+03	-3	76	-4	9	7,70E+04
	Batch 2	R1	-3	107	-4	10	1,10E+05	-3	99	-4	10	9,90E+04
		R2	-3	75	-4	11	7,80E+04	-3	70	-4	11	7,40E+04
		R3	-3	86	-4	10	8,70E+04	-3	82	-4	10	8,40E+04
		R4	-3	80	-4	5	7,70E+04	-3	78	-4	5	7,50E+04
		R5	-3	76	-4	9	7,70E+04	-3	68	-4	9	7,00E+04