



Summary of Results

External Quality Assessment for Food Microbiology European Food Microbiology Legislation Scheme

Distribution Number: EFL44
Sample Numbers: EFL130, EFL131 & EFL132

Distribution Date:	February 2018
Results Due:	23 March 2018
Report Date:	26 April 2018
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Report compiled by:	Nita Patel Manchari Rajkumar
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This Scheme provides external quality assessment samples for laboratories that examine foods products in accordance with European legislation specified in Regulation (EC) 2073/2005 Microbiological Criteria for Foodstuffs associated with Regulation (EC) 852/2004 and subsequent amendments

If you require further information about the scheme please refer to:

Scheme Guide: <https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide>

Guide to Scoring:

<https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scoring-systems-and-statistics>

FEPTU Quality Control:

To demonstrate stability of the sample, a minimum of ten LENTICULE® discs, selected randomly from a batch, are examined throughout the distribution period, either for enumeration or for pathogen detection.

FEPTU results are determined using methods based on ISO methods and are included in the 'intended results' letters which provide guidance for participants regarding the assigned values.

Intended results letters are posted on the website immediately after every distribution; electronic notification of their availability is sent to all participants.

If you experience difficulties with any of the examinations please refer to section 17.0 of the Scheme Guide

<https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide>

All participants are reminded that reporting an incorrect or incomplete identification of pathogens from food samples could have serious public health implications. Similarly, the levels of micro-organisms reported in the sample may affect the subsequent outcome for the product.

Participants are reminded that the purpose of scoring is to draw attention to incorrect or outlying results. Participants who report outlying results for enumerations on single occasions only should not be alarmed, although they should still assess the reason(s) for the outlying result. The results, as summarised in the performance assessment sheet included in this report, provide a more effective indication of on-going problems with food microbiology examinations.

Please contact FEPTU staff for advice and information:

Repeat samples	Carmen Gomes or Kermin Daruwalla	Tel: +44 (0)20 8327 7119
Data analysis	Manchari Rajkumar or Nita Patel	Fax: +44 (0)20 8200 8264
Microbiological advice	Nita Patel or Zak Prior	E-mail: foodeqa@phe.gov.uk
General comments and complaints	Nita Patel or Zak Prior	FEPTU Website
Scheme Consultant	Melody Greenwood, Nicola Elviss and Caroline Willis	
Scheme Co-ordinator	Nita Patel	

Accreditation: PHE European Food Microbiology Legislation Scheme is accredited by the United Kingdom Accreditation Service (UKAS) to ISO/IEC 17043:2010



Total number of participants sent distribution EFL44	23
Number of laboratories not returning a result for EFL44	1
Number of laboratories not examining any samples in EFL44	1

Sample: EFL130

Sample Details:	Home-made buttermilk with shelf life of <5 days. Product placed on market during shelf-life.
Sample Request:	Test to determine whether this sample complies with the relevant criteria stipulated in Commission Regulation (EC) No. 2073/2005 as amended Applicable food category 1.3
Sample Conclusion:	A further four sample units require testing before a conclusion can be drawn for the batch
Contents:	<i>Bacillus pumilus</i> 1.3×10^2 (wild strain) <i>Enterococcus faecium</i> 1.0×10^2 (wild strain) <i>Lactobacillus plantarum</i> 8.9×10^3 (wild strain)

All levels are presented as colony forming units (cfu) per g/ml reconstituted sample unless otherwise stated

Required Examinations: *Listeria monocytogenes*

Examination 1- *Listeria monocytogenes*:

Examination	Expected Result	Your result	Your score
Applicable food category	1.3		
Name of examination	<i>Listeria monocytogenes</i>		
Stipulated method*	ISO 11290-2*		
Amount of sample examined	-		
No. of samples from a batch required for compliance	5		
Expected range	<10		
Limits for compliance	m=100; M=100; c=0		
Conclusion about this examination from result obtained	Your conclusion has been scored in relation to your reported result		
* The most recent edition of the standard should be used		Total score out of	

Comments on Performance:

Number of participants incorrectly examining for <i>Listeria monocytogenes</i> as part of food category 1.2*	9
Number of participants correctly examining for <i>Listeria monocytogenes</i> as part of food category 1.3	9
Number of participants correctly examining for <i>Listeria monocytogenes</i> but not indicating the food category	1
Number of participants correctly using ISO 11290-2	18
Number of participants using an alternative method	1
Number of participants not indicating that <i>Listeria monocytogenes</i> test is required for compliance	2
Number of participants correctly reporting <10, <20 or not detected	18
Number of laboratories incorrectly reporting an actual count	1

*Examination specific comment

Nine participants reported that food category 1.2 applies for this sample type. This sample had a shelf-life of <5 days therefore would not be able to support the growth of *L. monocytogenes*. Footnote 8 states that 'products with a shelf-life of less than five days shall be automatically considered to belong to this category'. While the testing requirements are the same for food categories 1.2 and 1.3 participants are reminded that they must refer to the footnote of the legislation to ensure that the correct food category is selected.

13 laboratories additionally reported a result for a *Salmonella* test. Participants are to note that if this buttermilk had been made from raw milk or butter made from raw milk or milk that has received a lower heat treatment than pasteurisation it would be reasonable/desirable to apply 1.11. As this information was not provided with the sample details the *Salmonella* examination has not been included in the performance analysis.

	Your result	Your score
Overall batch conclusion		
Bonus score		

Sample: EFL131

- Sample Details:** Refrigerated liquid egg mix in a carton made following filtration and pasteurisation of the egg products, sampled during the manufacturing process.
- Sample Request:** Test to determine whether this sample complies with the relevant criteria stipulated in Commission Regulation (EC) No. 2073/2005 as amended.
Applicable food categories 1.2 and 2.3.1
- Sample Conclusion:** A further four sample units require testing before a conclusion can be drawn for the batch
- Contents:** *Enterobacter cloacae* 61 (wild strain)
Bacillus cereus 1.8 x 10² (wild strain)
Listeria monocytogenes 30 (wild strain)
† *Salmonella* Agona 1,4,[5],12: f,g,s:[1,2]: [z₂₇],[z₄₅]22 per disc (wild strain)

All levels are presented as colony forming units (cfu) per g/ml reconstituted sample unless otherwise stated

Required Examination: *Listeria monocytogenes* and *Enterobacteriaceae*

Examination 1- *Listeria monocytogenes*:

Examination	Expected Result	Your result	Your score
Applicable food category	1.2		
Name of examination	<i>Listeria monocytogenes</i>		
Stipulated method*	ISO 11290-1*		
Amount of sample examined	25g		
No. of samples from a batch required for compliance	5		
Expected range	Detected		
Limits for compliance	Absence in 25g; c=0		
Conclusion about this examination from result obtained	Your conclusion has been scored in relation to your reported result		
		Total score out of	

* The most recent edition of the standard should be used

Comments on Performance:

Number of participants correctly reporting detected for <i>Listeria monocytogenes</i> . as part of food category 1.2	11
Number of participants incorrectly reporting not detected for <i>Listeria monocytogenes</i> . as part of food category 1.2	1
Number of participants correctly reporting detected for <i>Listeria monocytogenes</i> but not indicating the food category	1
Number of participants using correctly ISO 11290-1	12
Number of participants using an alternative method	1
Number of participants not examining this sample for <i>Listeria monocytogenes</i>	8

Examination specific comment

This sample is often intended for use by body builders and therefore should also be considered as ready-to-eat product that requires *L. monocytogenes* testing for compliance.

Sample: EFL131

Examination 2- *Enterobacteriaceae*:

Examination	Expected Result	Your result	Your score
Applicable food category	2.3.1		
Name of examination	<i>Enterobacteriaceae</i>		
Stipulated method*	ISO 21528-2*		
Amount of sample examined	-		
No. of samples from a batch required for compliance	5		
Expected range	24 – 2.4 x 10 ²		
Limits for compliance	m=10; M=100; c=2		
Conclusion about this examination from result obtained	Your conclusion has been scored in relation to your reported result		
* The most recent edition of the standard should be used		Total score out of	

Comments on Performance:

Number of participants correctly examining for <i>Enterobacteriaceae</i> as part of food category 2.3.1	19
Number of participants correctly examining for <i>Enterobacteriaceae</i> as part of incorrect food category 2.2.1	1
Number of participants correctly using ISO 21528-2	16
Number of participants incorrectly using ISO 21528-1	1
Number of participants using an alternative method	3
Number of participants not indicating that <i>Enterobacteriaceae</i> test is required for compliance	1

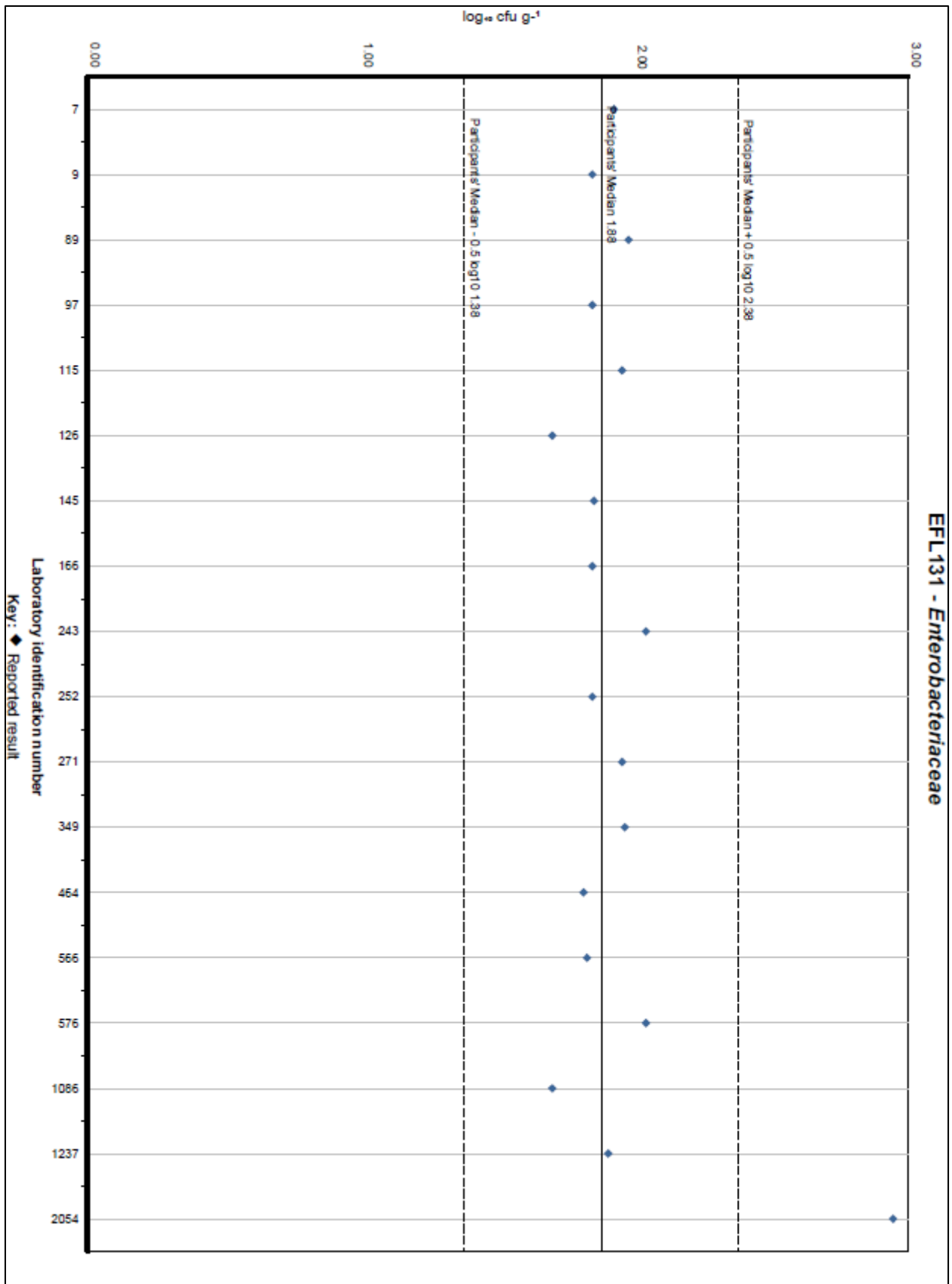
Assigned value (participants' median)	75 cfu g ⁻¹ (1.88 log ₁₀)
Uncertainty of assigned value ($U(X_{pt}) = \log_{10} \text{cfu g}^{-1}$)	0.03
No. of outlying counts	1 (1 high)
Participants mean	78 cfu g ⁻¹ (1.90 log ₁₀)
Standard deviation of participants results **	0.11 log ₁₀ cfu g ⁻¹
FEPTU QC median	61 cfu g ⁻¹ (1.79 log ₁₀)

** Robust S* based on median absolute deviation about the participants' median (MADe)

Sample specific comment

The inclusion of *Salmonella* in sample EFL131 was an error in the sample design. Therefore this parameter has not been scored. However it should be noted that the legislation does not include a criterion for *Salmonella* at the food business operator's premises and specifically excludes testing for *Salmonella* in pasteurised liquid egg when placed on the market (category 1.14).

	Your result	Your score
Overall batch conclusion		
Bonus score		



Sample: EFL132

Sample Details: Fresh strawberry ice-cream made from raw eggs and unpasteurised milk. Product placed on market during shelf-life

Sample Request: Test to determine whether this sample complies with the relevant criteria stipulated in Commission Regulation (EC) No. 2073/2005 as amended

Applicable food categories 1.3 and 1.13

Sample Conclusion: The batch does not comply with the Food Safety Criteria

Contents:
Listeria monocytogenes 1.6 x 10² (wild strain)
Aerococcus viridans 1.8 x 10² (wild strain)
Pantoea agglomerans 3.1 x 10² (wild strain)

All levels are presented as colony forming units (cfu) per g/ml reconstituted sample

Required Examination: *Listeria monocytogenes* and *Salmonella* spp.

Examination 1- *Listeria monocytogenes*:

Examination	Expected Result	Your result	Your score
Applicable food category	1.3		
Name of examination	<i>Listeria monocytogenes</i>		
Stipulated method*	ISO 11290-2*		
Amount of sample examined	-		
No. of samples from a batch required for compliance	5		
Expected range	47 – 4.74 x 10 ²		
Limits for compliance	m=100; M=100; c=0		
Conclusion about this examination from result obtained	Your conclusion has been scored in relation to your reported result		
* The most recent edition of the standard should be used			Total score out of

Comments on Performance:

Number of participants correctly examining for <i>Listeria monocytogenes</i> as part of food category 1.3	4
Number of participants correctly examining for <i>Listeria monocytogenes</i> as part of incorrect food category 1.2	15
Number of participants correctly examining for <i>Listeria monocytogenes</i> but not indicating the food category	1
Number of participants correctly using ISO 11290-2	19
Number of participants using an alternative method	1
Number of participants not indicating that <i>Listeria monocytogenes</i> test is required for compliance	1

Assigned value (participants' median)	1.50 x 10 ² cfu g ⁻¹ (2.18 log ₁₀)
Uncertainty of assigned value ($U(X_{pt}) = \log_{10} \text{cfu g}^{-1}$)	0.04
No. of outlying counts	2 (1 low/1high)
Participants mean	1.48 x 10 ² cfu g ⁻¹ (2.17 log ₁₀)
Standard deviation of participants results **	0.14 log ₁₀ cfu g ⁻¹
FEPTU QC median	1.59 x 10 ² cfu g ⁻¹ (2.20 log ₁₀)

** Robust S* based on median absolute deviation about the participants' median (MADe)

Examination specific comment

This sample is an ice-cream which is frozen, therefore would not be able to support the growth of *L. monocytogenes*. It is unclear why participants selected food category 1.2 instead of 1.3 based on the sample details.

Sample: EFL132

Examination 2- *Salmonella* spp.:

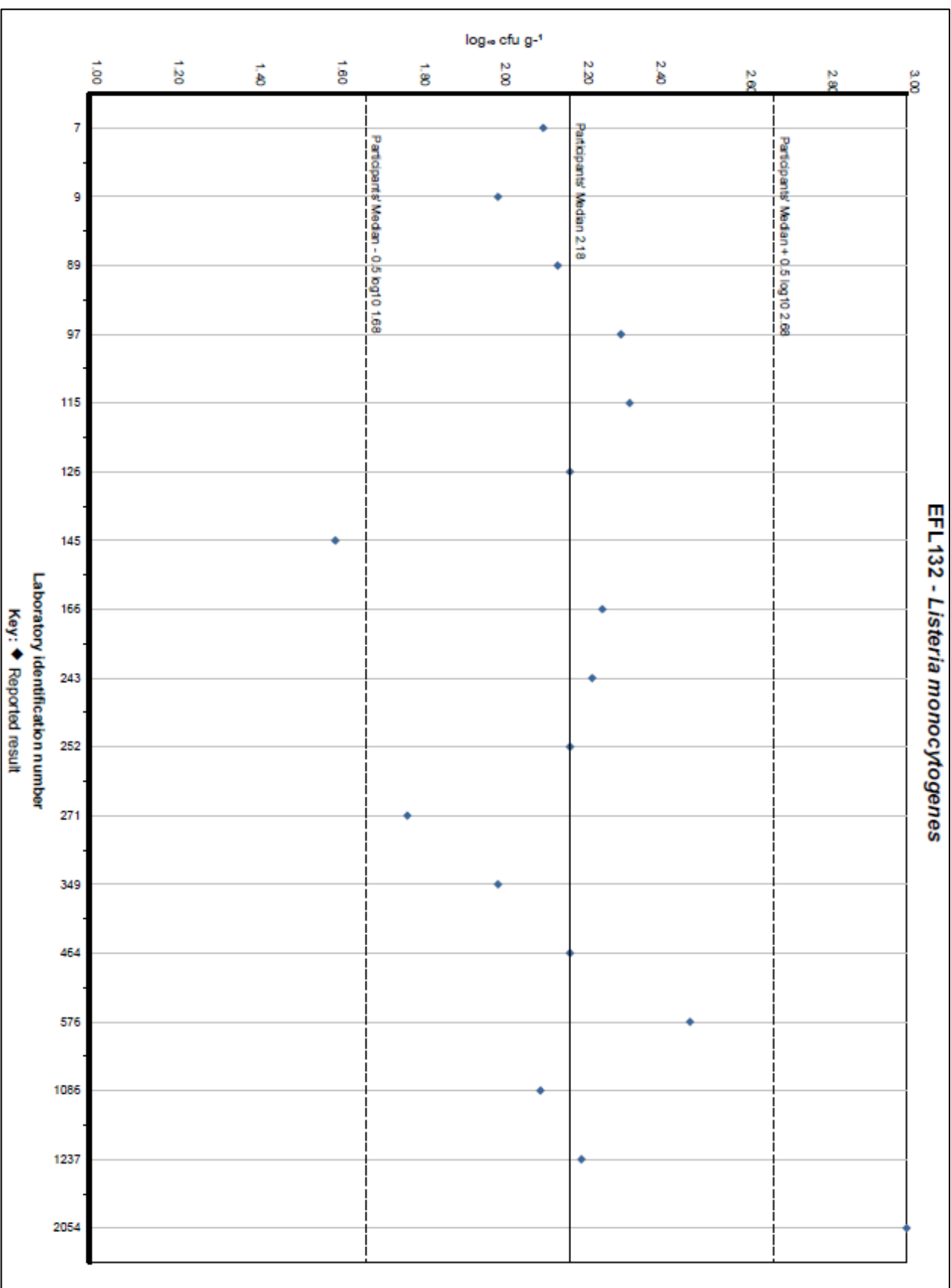
Examination 2	Expected Result	Your result	Your score
Applicable food category	1.13		
Name of examination	<i>Salmonella</i> spp.		
Stipulated method*	ISO 6579*		
Amount of sample examined	25		
No. of samples from a batch required for compliance	5		
Expected range	Not detected		
Limits for compliance	Absence in 25g; c=0		
Conclusion about this examination from result obtained	Your conclusion has been scored in relation to your reported result		
* The most recent edition of the standard should be used		Total score out of	

Comments on Performance:

Number of participants correctly reporting not detected for <i>Salmonella</i> spp. as part of food category 1.13	16
Number of participants correctly reporting not detected for <i>Salmonella</i> spp. as part of incorrect food category 1.15	3
Number of participants correctly reporting not detected for <i>Salmonella</i> spp. as part of incorrect food category 1.19	1
Number of participants correctly reporting not detected for <i>Salmonella</i> spp. but not indicating the food category	1
Number of participants correctly using ISO 6579	19
Number of participants using an alternative method	2

	Your result	Your score
Overall batch conclusion		
Bonus score		

EFL132 - *Listeria monocytogenes*



Performance Assessment Sheet

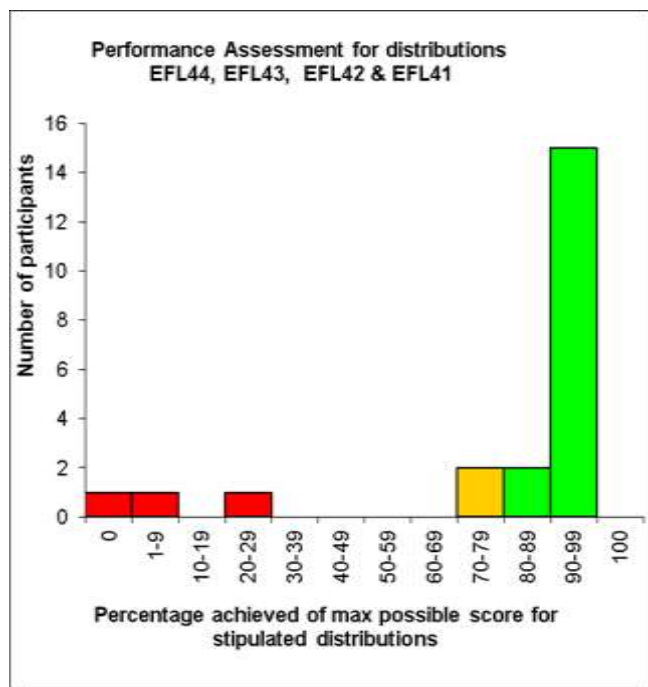
Distribution	Sample	Examination	Your score	Your %
EFL44	EFL130	<i>Listeria monocytogenes</i>		
	EFL130	Overall Batch Conclusion Score		
	EFL130	Bonus Score		
	EFL131	<i>Listeria monocytogenes</i>		
	EFL131	<i>Enterobacteriaceae</i>		
	EFL131	Overall Batch Conclusion Score		
	EFL131	Bonus Score		
	EFL132	<i>Listeria monocytogenes</i>		
	EFL132	<i>Salmonella</i> spp.		
	EFL132	Overall Batch Conclusion Score		
	EFL132	Bonus Score		
	EFL43	EFL127	<i>Listeria monocytogenes</i>	
EFL127		<i>Salmonella</i> spp.		
EFL127		Overall Batch Conclusion Score		
EFL127		Bonus Score		
EFL128		<i>Salmonella</i> spp.		
EFL128		Overall Batch Conclusion Score		
EFL128		Bonus Score		
EFL129		Aerobic colony count		
EFL129		<i>Escherichia coli</i>		
EFL129		Overall Batch Conclusion Score		
EFL129		Bonus Score		
EFL42		EFL124	<i>Listeria monocytogenes</i>	
	EFL124	<i>Escherichia coli</i> .		
	EFL124	Coagulase positive staphylococci		
	EFL124	Overall Batch Conclusion Score		
	EFL124	Bonus Score		
	EFL125	<i>Listeria monocytogenes</i>		
	EFL125	<i>Cronobacter</i> spp. (<i>Enterobacter sakazakii</i>)		
	EFL125	<i>Enterobacteriaceae</i>		
	EFL125	Presumptive <i>Bacillus cereus</i>		
	EFL125	Overall Batch Conclusion Score		
	EFL125	Bonus Score		
	EFL126	<i>Listeria monocytogenes</i>		
	EFL126	<i>Escherichia coli</i>		
	EFL126	Coagulase positive staphylococci		
	EFL126	Overall Batch Conclusion Score		

	EFL126	Bonus Score		
EFL41	EFL121	<i>Listeria monocytogenes</i>		
	EFL121	<i>Salmonella</i> spp.		
	EFL121	Shiga toxin producing <i>E. coli</i>		
	EFL121	Overall Batch Conclusion Score		
	EFL121	Bonus Score		
	EFL122	<i>Listeria monocytogenes</i>		
	EFL122	Overall Batch Conclusion Score		
	EFL122	Bonus Score		
	EFL123	<i>Listeria monocytogenes</i>		
	EFL123	<i>Salmonella</i> spp.		
	EFL123	Overall Batch Conclusion Score		
	EFL123	Bonus Score		

Performance Assessment Comment:

Participants are reminded that to take advantage of the performance assessment overtime tool provided in the reports they need to take part in more than one distribution a year.

Performance assessments are designed to identify laboratories with on-going problems with their examinations and are undertaken after every distribution. Scores are allocated to results reported for every sample to help assess participants' performance.



Performance Assessment Comment;

Laboratories that achieve <70% of the maximum possible score are likely to be experiencing significant problems with their tests and are advised to

- a) refer to the relevant sample reports for specific comments
- b) refer to the website guidance documents:

<https://www.gov.uk/government/collections/external-quality-assessment-eqa-and-proficiency-testing-pt-for-food-water-and-environmental-microbiology>

- c) contact the organisers for advice.

General comment:

Participants are reminded that decisions on appropriate testing should be based on fact, not assumptions.

Please refer to pages 13 and 14 of the guide to scoring document for more information.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/675584/FEPTU562.11.pdf

It is important that when entering your results all fields where a score is applied are correctly completed.

Participants are reminded that if you do not carry out a test that is required for compliance with the legislation to at least complete the applicable food category or the name of the examination. This will demonstrate your understanding of the legislation requirements and for your laboratory to be awarded the bonus scores.

If you do not return a result for a distribution, you will not be able to view all the participants' results data in your individualised report. Therefore, we will post generic reports on the website, which will be available for 12 months after the distribution has closed, so you can access the missing data.

End of report.