Public Health England

Summary of Results

External Quality Assessment of Food Microbiology

Public Health Scheme

Distribution Number: **PH5**

Sample Numbers: **PH0025, PH0026, PH0027, PH0028, PH0029, PH0030**

Distribution Date:	**November 2014**
Results Due:	**12 December 2014**
Report Date:	**18 December 2014**
Samples prepared and QC tested by:	**Morolake Adedeji** **Stephanie Foster** **Thamayanthy Ramesh** **Aneta Stranc** **Anitha Tallam**
Data Analysed by:	**Manchari Rajkumar** **Nita Patel**
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If you require general information about the scheme please refer to:

Scheme Guide:

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

For more specific information about results assessments, scoring systems, statistics, and guidance on analysing your results for the proficiency testing samples please refer to:

Guide to Scoring and Statistics:

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

General guidance for z-scores:

Participants' enumeration results are converted into z-scores using the following formula:

$$Z = \frac{(x-X)}{\sigma}$$

x = participants' result (expressed as a $\log_{10}$ value)

X = assigned value (participants' consensus median (expressed as a $\log_{10}$ value))

σ = the fixed standard deviation for the examination (calculated by FEPTU)

The σ-value expresses the acceptable difference between the individual participant's result and the participants' consensus median. The σ-value used for calculating z-scores for all parameters in the Public Health Scheme is 0.35. A guide to interpreting z-scores follows, although laboratories must interpret their scores in the context of their own laboratory situation.

z = -1.99 to +1.99	satisfactory
z = -2 to -2.99 or +2 to +2.99	questionable
z= < -3.00 or > + 3.00	unsatisfactory

It is usually recommended that z-scores exceeding ±2 are investigated to establish the possible cause. As a general rule, PHE recommends that all questionable and unsatisfactory results are investigated.

FEPTU Quality Control: To demonstrate homogeneity of the sample, a minimum of 10 LENTICULE® discs, selected randomly from a batch, are tested in duplicate for parameters requiring enumeration and 10 LENTICULE discs are examined for pathogen detection.

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

The FEPTU results are used for guidance in the preliminary intended results notification, 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 pathogen from food or swab samples could have serious public health implications. Similarly, the levels of mirco-organisms reported in the sample may affect the subsequent outcome for the product.

Please contact FEPTU staff for advice and information:

Repeat samples	Carmen Gomes or Kermin Daruwalla
Data Analysis	Manchari Rakumar or Nita Patel
Microbiological advice	Nita Patel or Morolake Adedeji
General comments and complaints	Nita Patel or Morolake Adedeji
Scheme consultants	Nicola Elviss and Melody Greenwood
Scheme Co-ordinator	Nita Patel

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Outbreak details: On the morning of 3 November 2014, the Prison Management were made aware of a large number of ill prisoners complaining of diarrhoea and/or abdominal cramps. The Local Health Authority were informed of the situation on the same day. The onset of the symptoms was 24 hours before management were made aware; currently 35 prisoners are still unwell. The menus at the prison were reviewed and the prison were asked about which menu option they had eaten on the preceding 7 days.

All food is centrally prepared in a large kitchen unit and a portion of each menu item is retained for a period of seven days in the freezer. Food samples were collected for microbiological examination and a number of swabs were collected from various areas used to serve the food.

Accreditation: PHE Public Health EQA Scheme is accredited by the United Kingdom Accreditation Service (UKAS) to ISO/IEC Guide 17043:2010

0006

Food Sample: PH0025

Sample type: Chicken stir fry containing chicken and mixed vegetables in a sweet and sour sauce

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Clostridium perfringens (20) (wild type strain), *Klebsiella pneumoniae* ($2.8x10^2$) (wild type strain), *Micrococcus varians* (10^3) (wild type strain)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	$1.2x10^1$ - $1.3x10^2$ cfu g^{-1}		N/A	N/A
Aerobic Colony Count (30ºC)	$2.8x10^3$ - $2.8x10^4$ cfu g^{-1}		N/A	N/A
Enterobacteriaceae	$9.4x10^1$ - $9.5x10^2$ cfu g^{-1}		N/A	N/A
Escherichia coli	<10 cfu g^{-1}		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	9
Participants reporting correctly	5
Total participants reporting for *Clostridium perfringens*	5
Assigned value (participants' median)	$4.0x10^1$ cfu g^{-1} (1.6 $\log_{10}$)
Participants reporting a low censored value	4
Uncertainty of assigned value (Ux= $\log_{10}$ cfu g^{-1})	0.10
Participants' mean	$4.1x10^1$ cfu g^{-1} (1.62 $\log_{10}$)
*Standard deviation of participants' results	0.18 $\log_{10}$ cfu g^{-1}
FEPTU QC median	$1.0x10^1$ cfu g^{-1} (1 $\log_{10}$)

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	8
Participants reporting correctly	8
Total participants reporting for Aerobic Colony Count (30ºC)	8
Assigned value (participants' median)	$8.8x10^3$ cfu g^{-1} (3.94 $\log_{10}$)
Uncertainty of assigned value (Ux= $\log_{10}$ cfu g^{-1})	0.06
Participants' mean	$9.1x10^3$ cfu g^{-1} (3.96 $\log_{10}$)
*Standard deviation of participants' results	0.14 $\log_{10}$ cfu g^{-1}
FEPTU QC median	$8.2x10^3$ cfu g^{-1} (3.91 $\log_{10}$)

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	9
Participants reporting correctly	9
Total participants reporting for *Enterobacteriaceae*	9
Assigned value (participants' median)	$3.0x10^2$ cfu g^{-1} (2.48 $\log_{10}$)
Uncertainty of assigned value (Ux= $\log_{10}$ cfu g^{-1})	0.06
Participants' mean	$3.1x10^2$ cfu g^{-1} (2.49 $\log_{10}$)
*Standard deviation of participants' results	0.12 $\log_{10}$ cfu g^{-1}
FEPTU QC median	$2.8x10^2$ cfu g^{-1} (2.45 $\log_{10}$)

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	9
Participants reporting correctly	9

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

Food Sample: PH0026

Sample type: Egg fried rice

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Bacillus subtilis (16) (wild type strain), *Citrobacter braakii* (<10) (wild type strain), *Lactobacillus plantarum* (36) (wild type strain) , *Staphylococcus xylosus* (45) (NCIMB 13636)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	<10 cfu g^{-1}		N/A	N/A
Aerobic Colony Count (30ºC)	$2.9x10^{1}$ - $4.1x10^{2}$ cfu g^{-1}		N/A	N/A
Enterobacteriaceae	<10 cfu g^{-1}		N/A	N/A
Escherichia coli	<10 cfu g^{-1}		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	8
Participants reporting correctly	8

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	8
Participants reporting correctly	5
Total participants reporting for Aerobic Colony Count (30ºC)	5
Assigned value (participants' median)	$1.1x10^{2}$ cfu g^{-1} (2.04 log_{10})
Participants reporting a low censored value	3
Uncertainty of assigned value (Ux= log_{10} cfu g^{-1})	0.16
Participants' mean	$1.4x10^{2}$ cfu g^{-1} (2.13 log_{10})
*Standard deviation of participants' results	0.29 log_{10} cfu g^{-1}
FEPTU QC median	$5.0x10^{1}$ cfu g^{-1} (1.7 log_{10})

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	9
Participants reporting correctly	5

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	9
Participants reporting correctly	9

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

Food Sample: PH0027

Sample type: Chicken satay cooked early morning in a sticky sauce containing peanuts, soy sauce, ginger and lime juice

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Clostridium perfringens (80) (wild type strain), *Pseudomonas aeruginosa* (47) (wild type strain), *Staphylococcus epidermidis* (43) (wild type strain)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	1 - 3.4x10² cfu g $^{-1}$		N/A	N/A
Aerobic Colony Count (30ºC)	4.4x10¹ - 4.4x10² cfu g $^{-1}$		N/A	N/A
Enterobacteriaceae	<10 cfu g $^{-1}$		N/A	N/A
Escherichia coli	<10 cfu g $^{-1}$		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	9
Participants reporting correctly	7
Total participants reporting for *Clostridium perfringens*	7
Assigned value (participants' median)	2.4x10¹ cfu g $^{-1}$ (1.38 $\log_{10}$)
Participants reporting a low censored value	2
Uncertainty of assigned value (Ux= $\log_{10}$ cfu g $^{-1}$)	0.27
Participants' mean	4.2x10¹ cfu g $^{-1}$ (1.63 $\log_{10}$)
*Standard deviation of participants' results	0.58 $\log_{10}$ cfu g $^{-1}$
FEPTU QC median	1.2x10² cfu g $^{-1}$ (2.08 $\log_{10}$)

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	8
Participants reporting correctly	6
Total participants reporting for Aerobic Colony Count (30ºC)	6
Assigned value (participants' median)	1.4x10² cfu g $^{-1}$ (2.15 $\log_{10}$)
Participants reporting a low censored value	2
Uncertainty of assigned value (Ux= $\log_{10}$ cfu g $^{-1}$)	0.08
Participants' mean	1.3x10² cfu g $^{-1}$ (2.12 $\log_{10}$)
*Standard deviation of participants' results	0.16 $\log_{10}$ cfu g $^{-1}$
FEPTU QC median	1.0x10² cfu g $^{-1}$ (2 $\log_{10}$)

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	9
Participants reporting correctly	9

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	9
Participants reporting correctly	9

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

Swab Sample: PH0028

Sample type: Random area swab from a mincemeat grinding machine

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Clostridium perfringens (3x10²) (wild type strain), *Enterobacter cloacae* (5x10³) (wild type strain), *Staphylococcus epidermidis* (2x10³) (wild type strain)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	N/A**		N/A	N/A
Aerobic Colony Count (30ºC)	N/A**		N/A	N/A
Enterobacteriaceae	$5.6x10^1$ - $9.4x10^5$ cfu per swab		N/A	N/A
Escherichia coli	<100 cfu per swab		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	3
Participants reporting correctly	2
Total participants reporting for *Clostridium perfringens*	2
Participants reporting a low censored value	1
FEPTU QC median	$3.0x10^2$ cfu per swab (2.48 log_{10})

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	3
Participants reporting correctly	3
Total participants reporting for Aerobic Colony Count (30ºC)	3
FEPTU QC median	$1.5x10^4$ cfu per swab (4.18 log_{10})

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	7
Participants reporting correctly	7
Total participants reporting for *Enterobacteriaceae*	7
Assigned value (participants' median)	$7.3x10^3$ cfu per swab (3.86 log_{10})
Uncertainty of assigned value (Ux= log_{10} cfu per swab)	0.60
Participants' mean	$2.8x10^3$ cfu per swab (3.45 log_{10})
*Standard deviation of participants' results	1.06 log_{10} cfu per swab
FEPTU QC median	$5.0x10^3$ cfu per swab (3.7 log_{10})

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	7
Participants reporting correctly	7

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

Swab Sample: PH0029

Sample type: Template area swab (10cm x 10cm) from a staff member's apron

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Clostridium perfringens (1) (wild type strain), *Bacillus subtilis* (24) (wild type strain), *Micrococcus varians* ($1.7x10^2$) (wild type strain)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	N/A**		N/A	N/A
Aerobic Colony Count (30ºC)	$6.4x10^1$ - $6.4x10^2$ cfu cm^2		N/A	N/A
Enterobacteriaceae	<1 cfu cm^2		N/A	N/A
Escherichia coli	<1 cfu cm^2		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	3
Participants reporting correctly	1
Total participants reporting for *Clostridium perfringens*	1
Participants reporting a low censored value	2
FEPTU QC median	0

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	7
Participants reporting correctly	7
Total participants reporting for Aerobic Colony Count (30ºC)	7
Assigned value (participants' median)	$2.0x10^2$ cfu cm^2 (2.31 log_{10})
Uncertainty of assigned value (Ux= log_{10} cfu cm^2)	0.06
No. of outlying counts	1 (0 low / 1 high)
Participants' mean	$2.2x10^2$ cfu cm^2 (2.33 log_{10})
*Standard deviation of participants' results	0.15 log_{10} cfu cm^2
FEPTU QC median	$1.8x10^2$ cfu cm^2 (2.26 log_{10})

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	8
Participants reporting correctly	8

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	8
Participants reporting correctly	8

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

Swab Sample: PH0030

Sample type: Template area swab (10cm x 10cm) from a raw meat preparation area

Request: Examine samples following your routine protocol for the above outbreak – enter the examination carried out and the results obtained below

Contents:

Enterobacter cloacae (82) (wild type strain), *Enterococcus faecium* (29) (wild type strain), *Escherichia coli* (17) (wild type strain)

Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
Clostridium perfringens	<1 cfu cm²		N/A	N/A
Aerobic Colony Count (30ºC)	$1.3x10^2$ - $1.3x10^3$ cfu cm²		N/A	N/A
Enterobacteriaceae	$4.8x10^1$ - $6.8x10^2$ cfu cm²		N/A	N/A
Escherichia coli	0 - $1.2x10^2$ cfu cm²		N/A	N/A

Comments on Performance:

Clostridium perfringens

Total number of participants examining the sample for *Clostridium perfringens*	4
Participants reporting correctly	4

Aerobic Colony Count (30ºC)

Total number of participants examining the sample for Aerobic Colony Count (30ºC)	6
Participants reporting correctly	6
Total participants reporting for Aerobic Colony Count (30ºC)	6
Assigned value (participants' median)	$4.1x10^2$ cfu cm² ($2.61 \log_{10}$)
Uncertainty of assigned value (Ux= $\log_{10}$ cfu cm²)	0.07
No. of outlying counts	1 (0 low / 1 high)
Participants' mean	$4.1x10^2$ cfu cm² ($2.62 \log_{10}$)
*Standard deviation of participants' results	0.17 $\log_{10}$ cfu cm²
FEPTU QC median	$2.5x10^2$ cfu cm² ($2.4 \log_{10}$)

Enterobacteriaceae

Total number of participants examining the sample for *Enterobacteriaceae*	8
Participants reporting correctly	8
Total participants reporting for *Enterobacteriaceae*	8
Assigned value (participants' median)	$1.8x10^2$ cfu cm² ($2.26 \log_{10}$)
Uncertainty of assigned value (Ux= $\log_{10}$ cfu cm²)	0.10
No. of outlying counts	3 (2 low / 1 high)
Participants' mean	$1.7x10^2$ cfu cm² ($2.23 \log_{10}$)
*Standard deviation of participants' results	0.29 $\log_{10}$ cfu cm²
FEPTU QC median	$1.1x10^2$ cfu cm² ($2.03 \log_{10}$)

Escherichia coli

Total number of participants examining the sample for *Escherichia coli*	8
Participants reporting correctly	6
Total participants reporting for *Escherichia coli*	6
Assigned value (participants' median)	9 cfu cm² ($0.99 \log_{10}$)
Participants reporting a low censored value	2
Uncertainty of assigned value (Ux= $\log_{10}$ cfu cm²)	0.28
Participants' mean	7 cfu cm² ($0.88 \log_{10}$)
*Standard deviation of participants' results	0.55 $\log_{10}$ cfu cm²
FEPTU QC median	$1.7x10^1$ cfu cm² ($1.23 \log_{10}$)

Total sent samples	11
Not examined	2
Non returns	0

The fixed standard deviation value (σ value) used for calculation of the z-scores is **0.35** for all parameters.

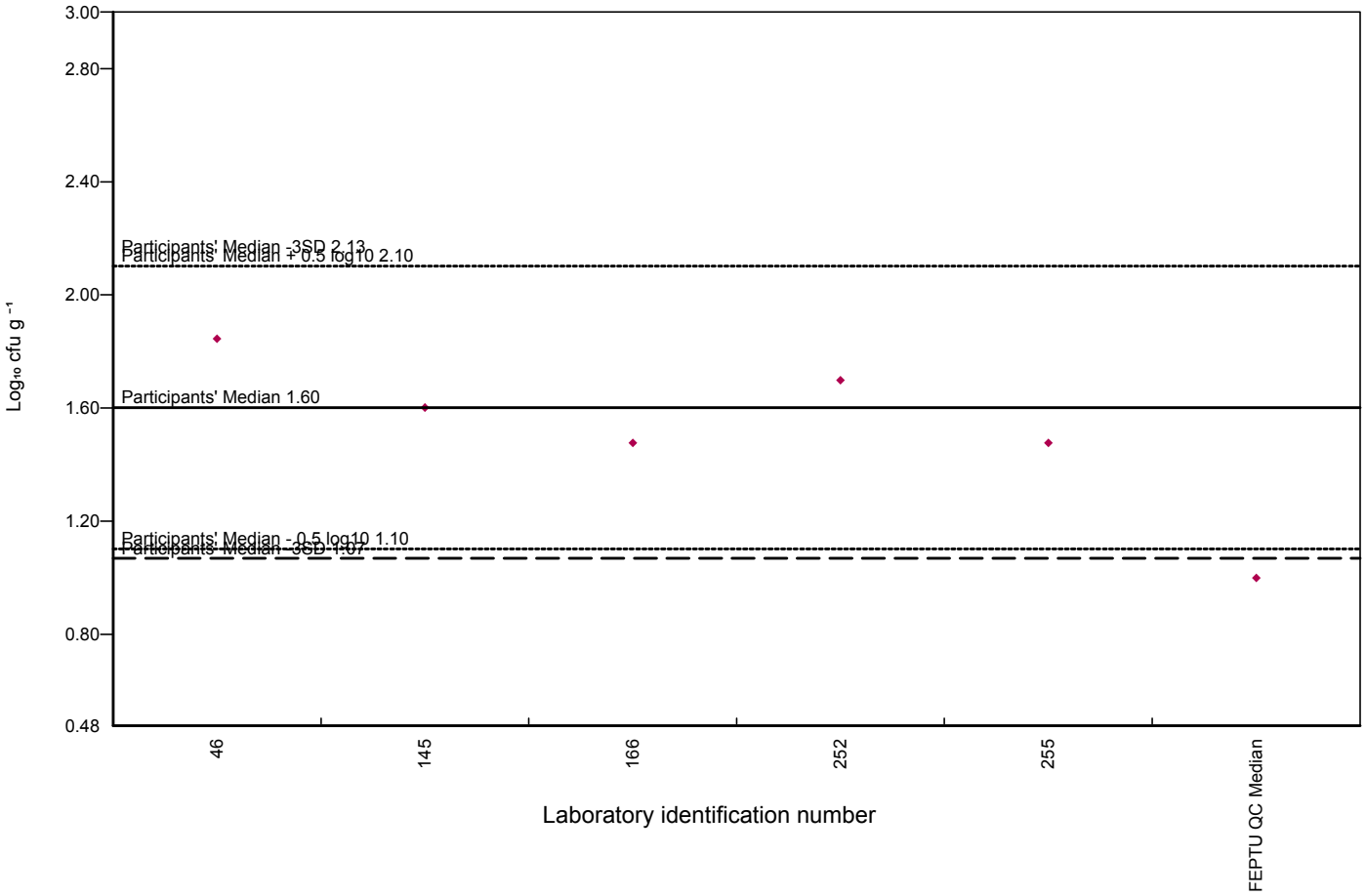
* Robust SD based on median absolute deviation about the participants' median (MAD).

Note: enumeration parameters with less than 10 participants results are not scored. Please see explanation in the comments section.

** No expected range calculated for this parameter due to the low number of participants reporting a results for this test.

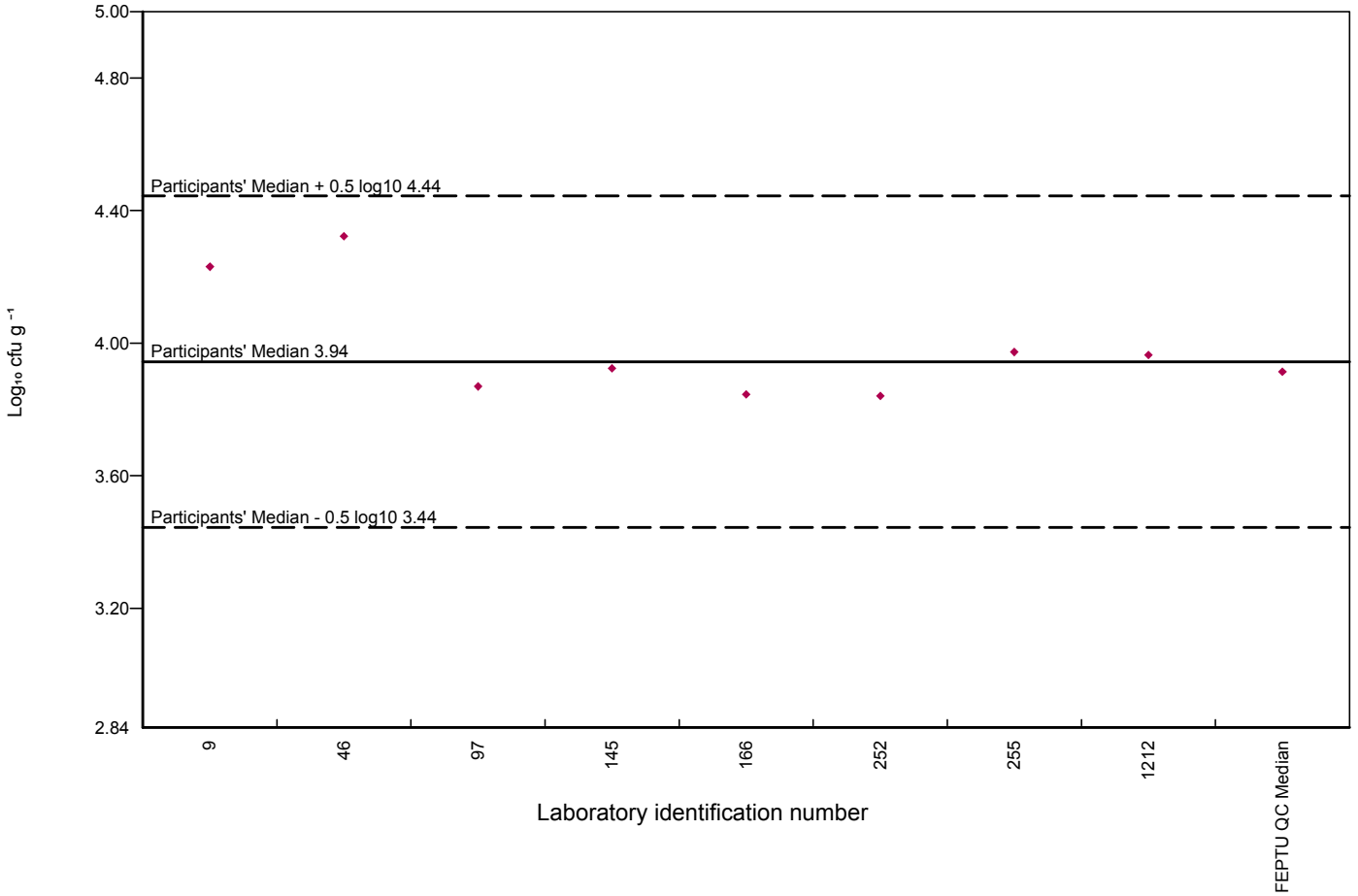
PH0025 - *Clostridium perfringens*

Key: ◆ Reported result



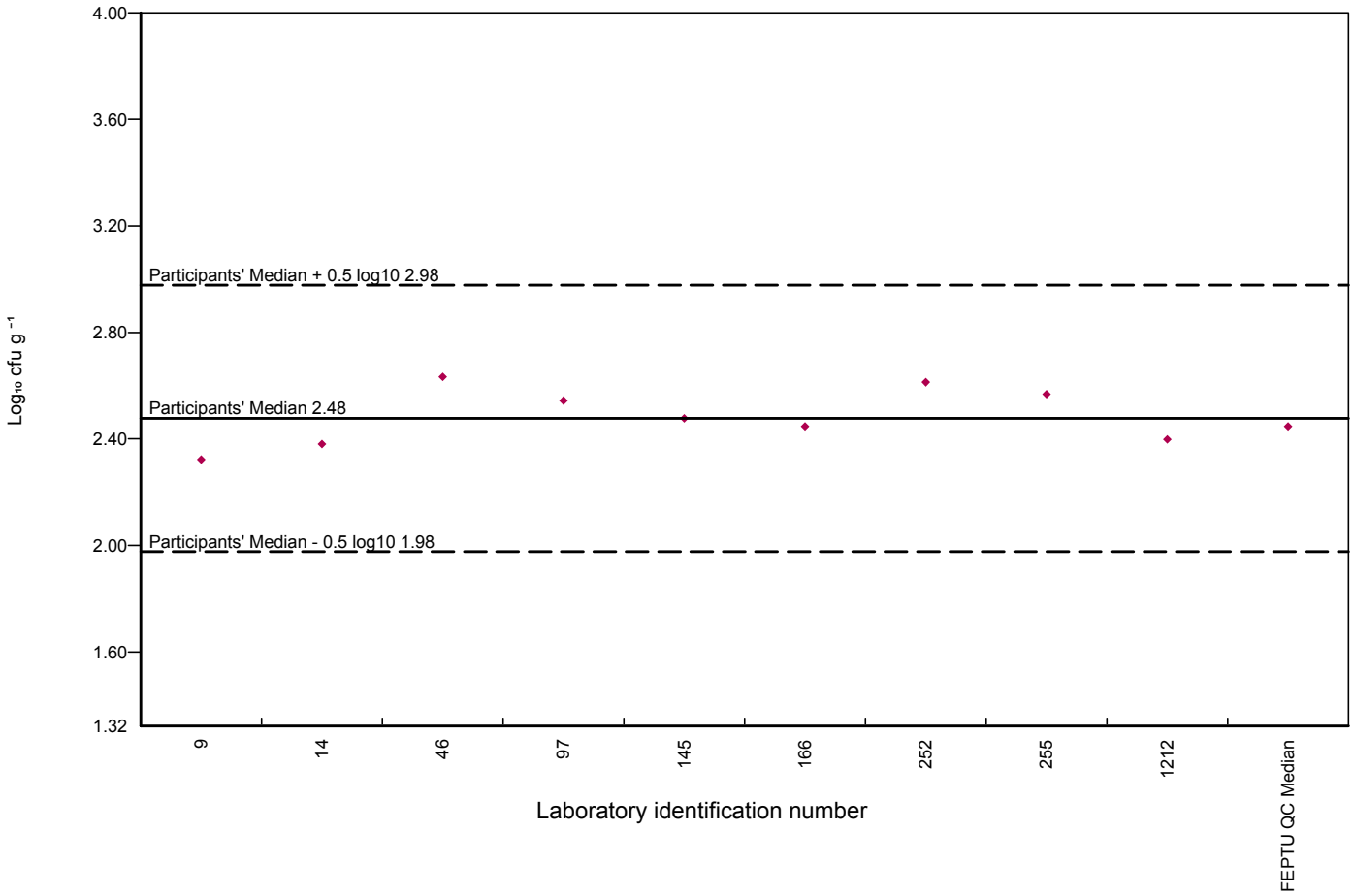
PH0025 - Aerobic Colony Count (30ºC)

Key: ◆ Reported result



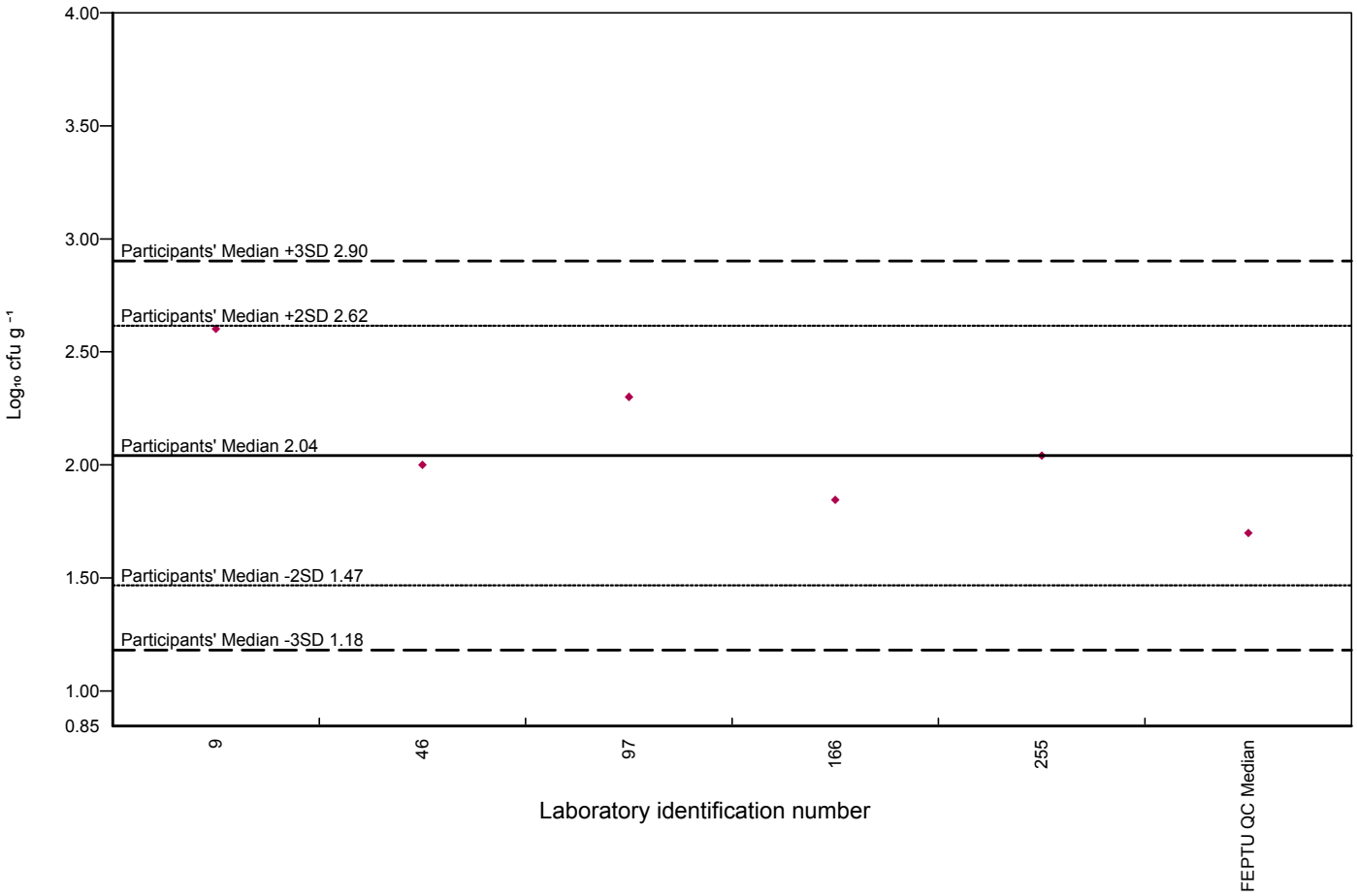
PH0025 - *Enterobacteriaceae*

Key: ◆ Reported result



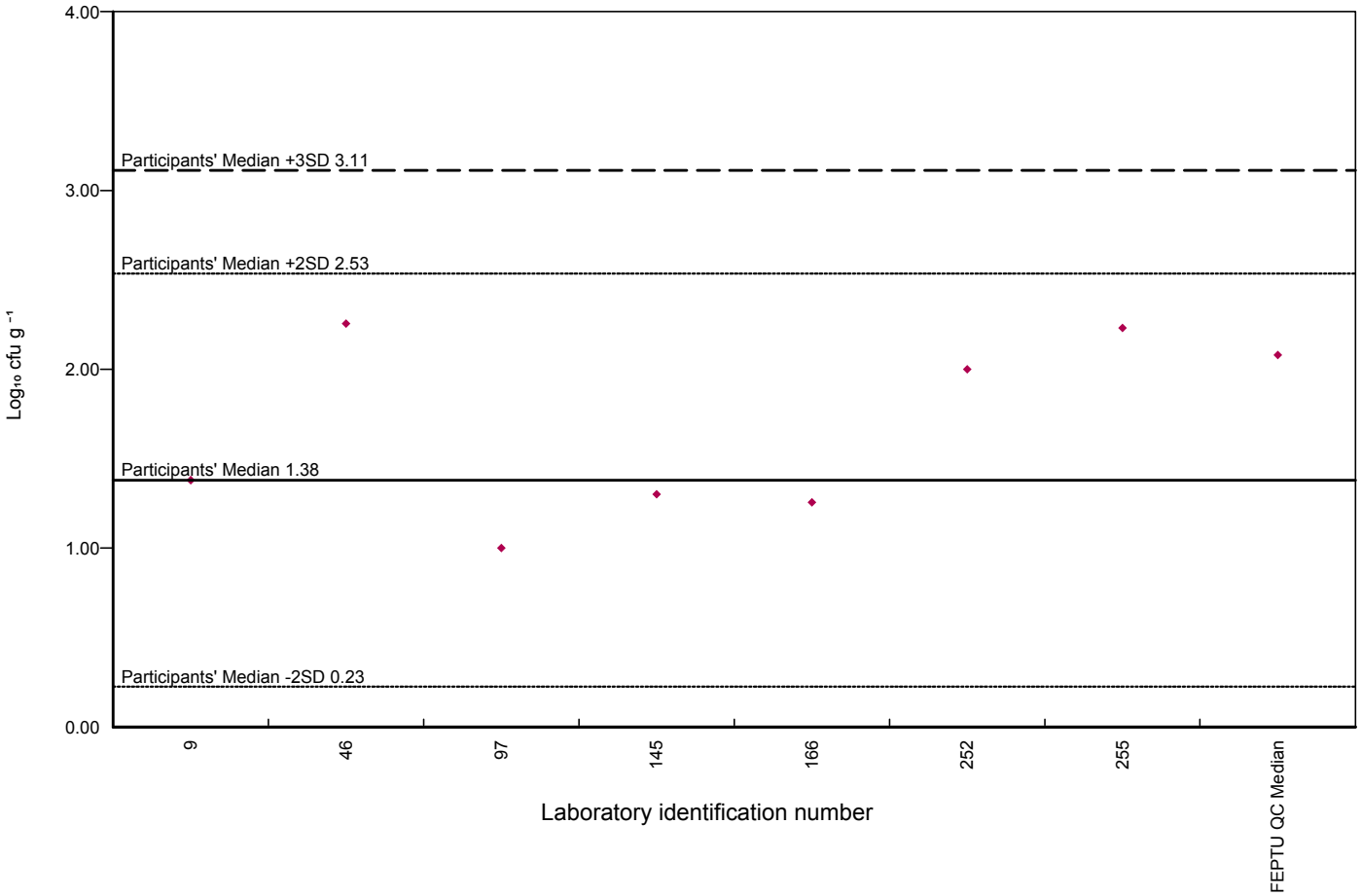
PH0026 - Aerobic Colony Count (30ºC)

Key: ◆ Reported result



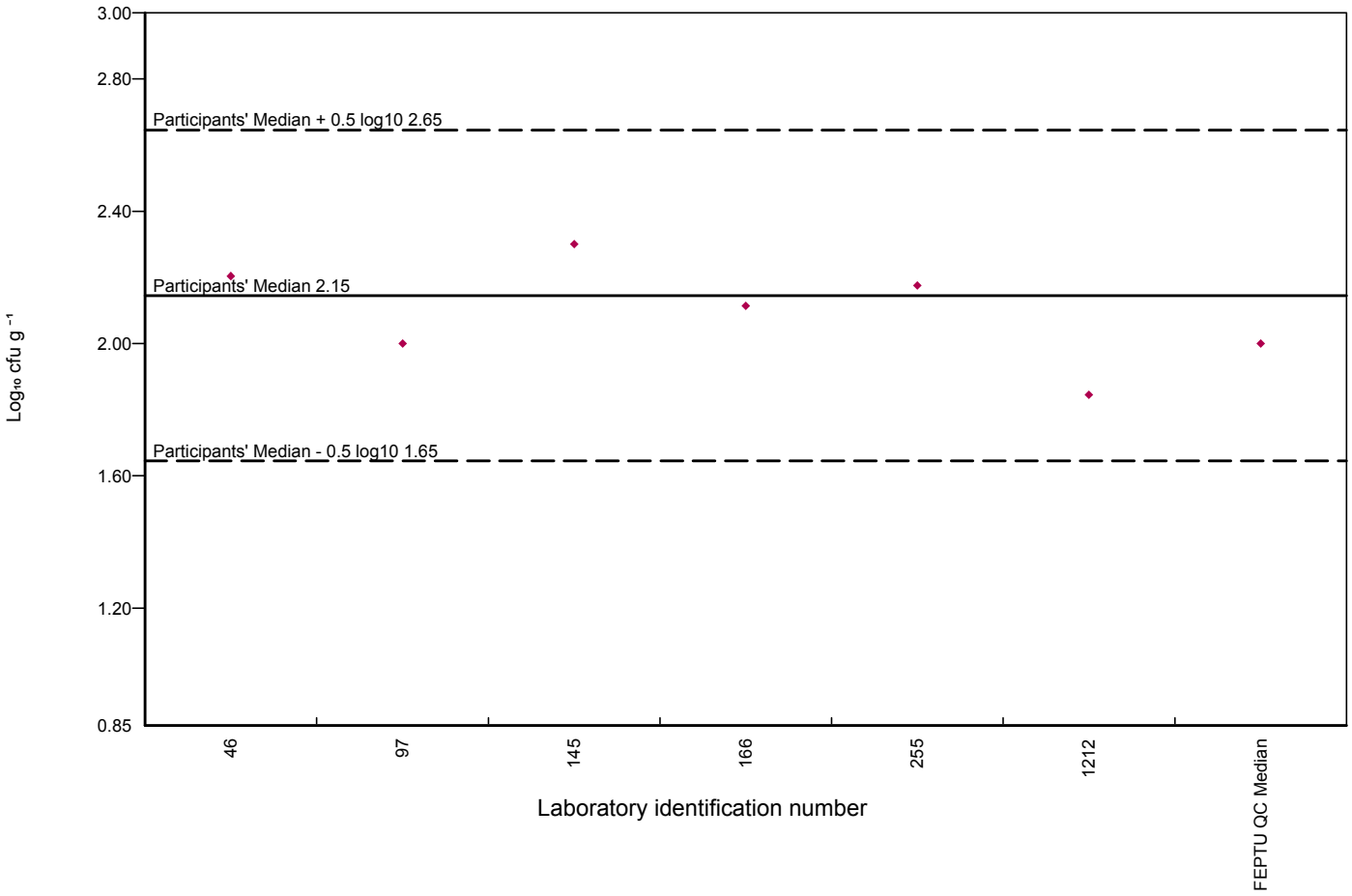
PH0027 - *Clostridium perfringens*

Key: ◆ Reported result



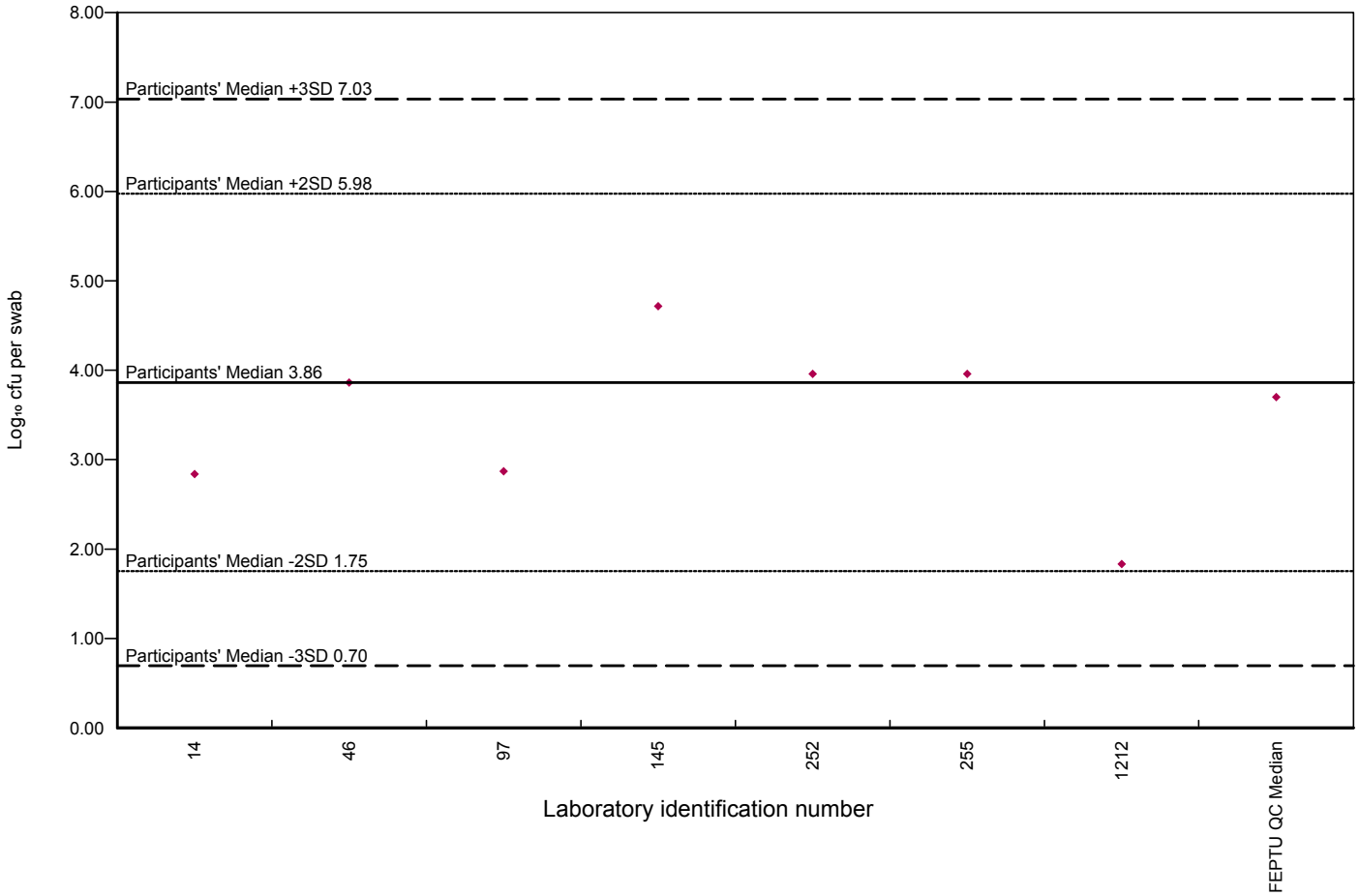
PH0027 - Aerobic Colony Count (30ºC)

Key: ◆ Reported result



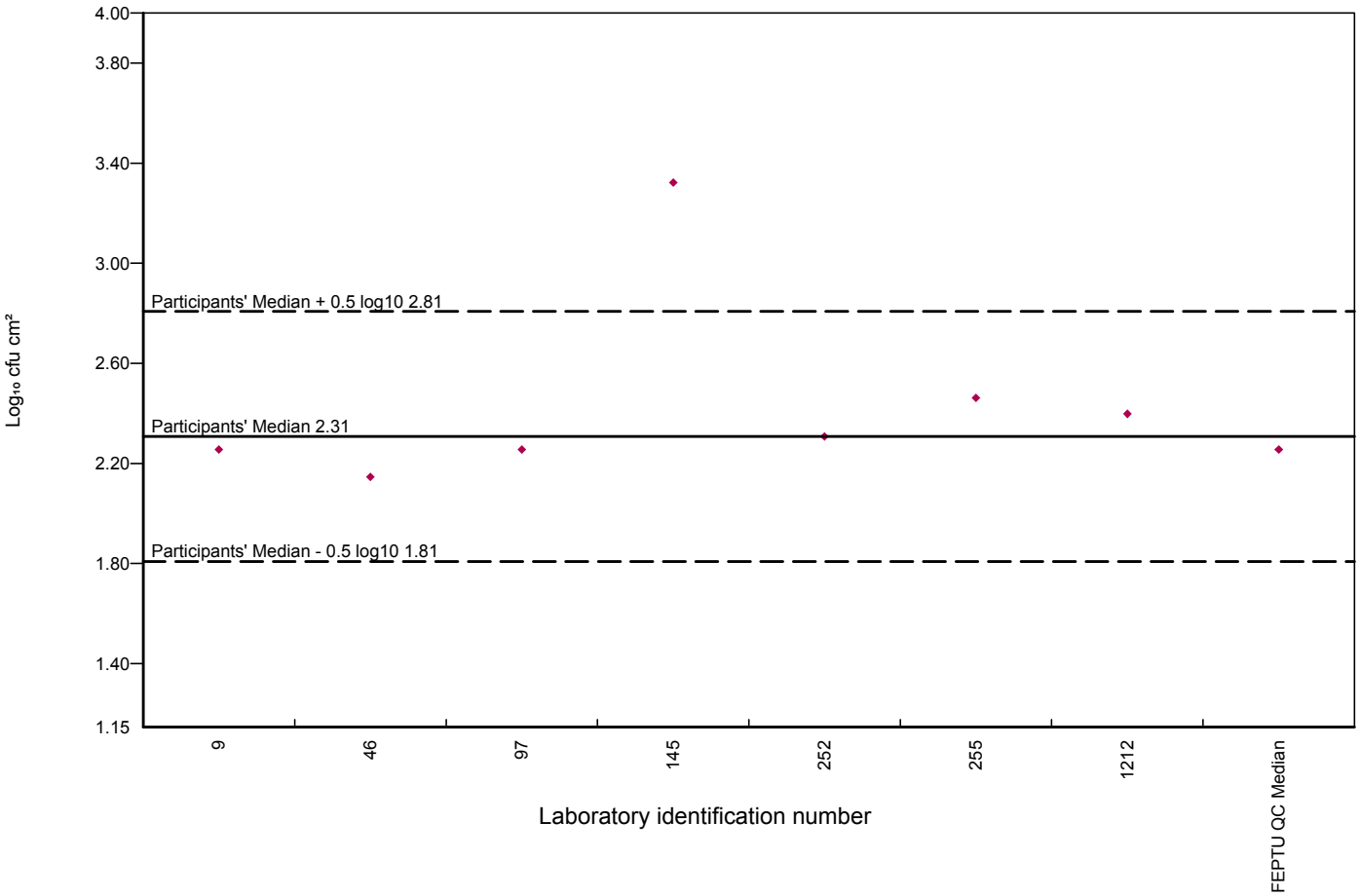
PH0028 - *Enterobacteriaceae*

Key: ◆ Reported result



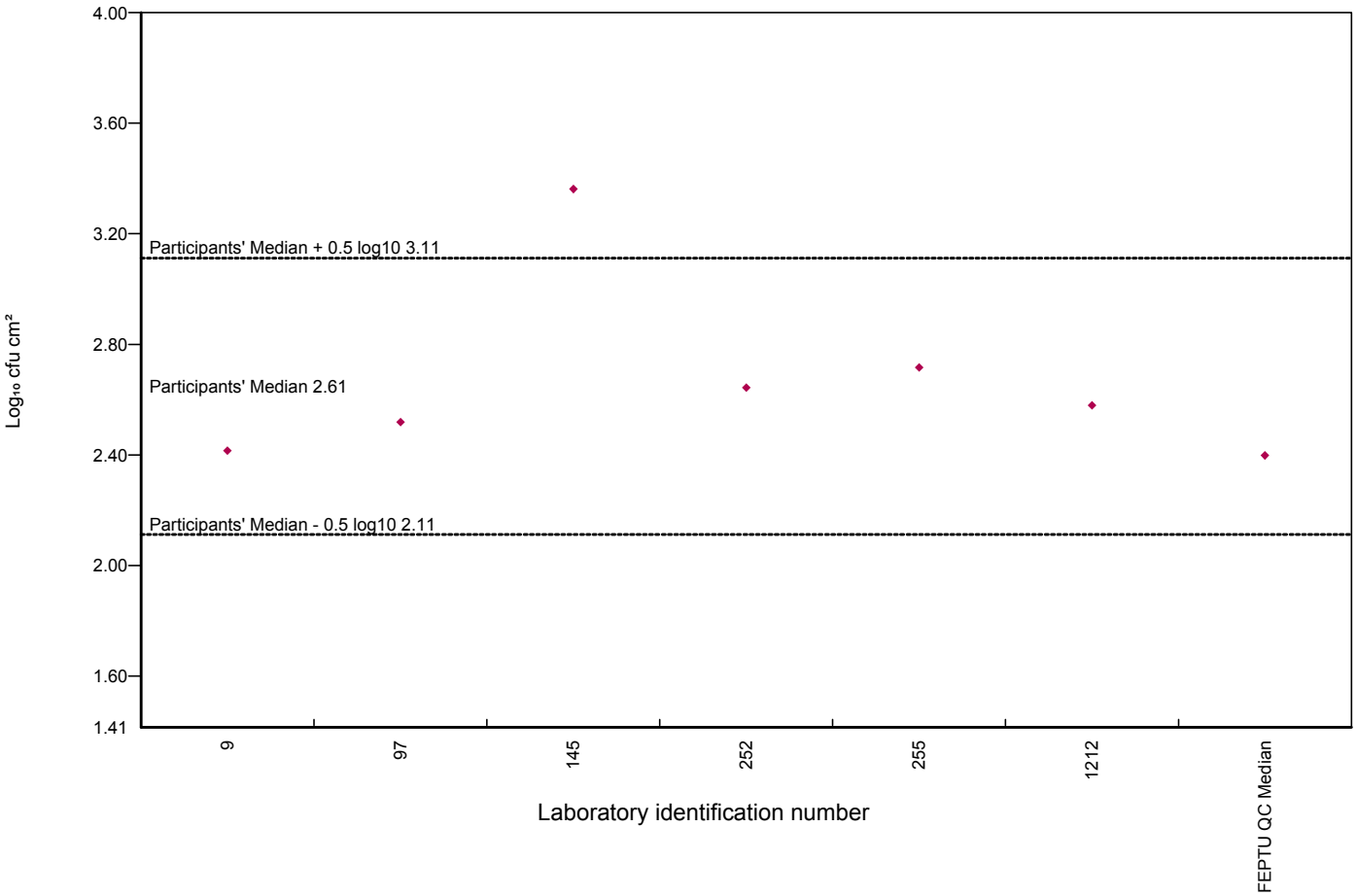
PH0029 - Aerobic Colony Count (30ºC)

Key: ◆ Reported result



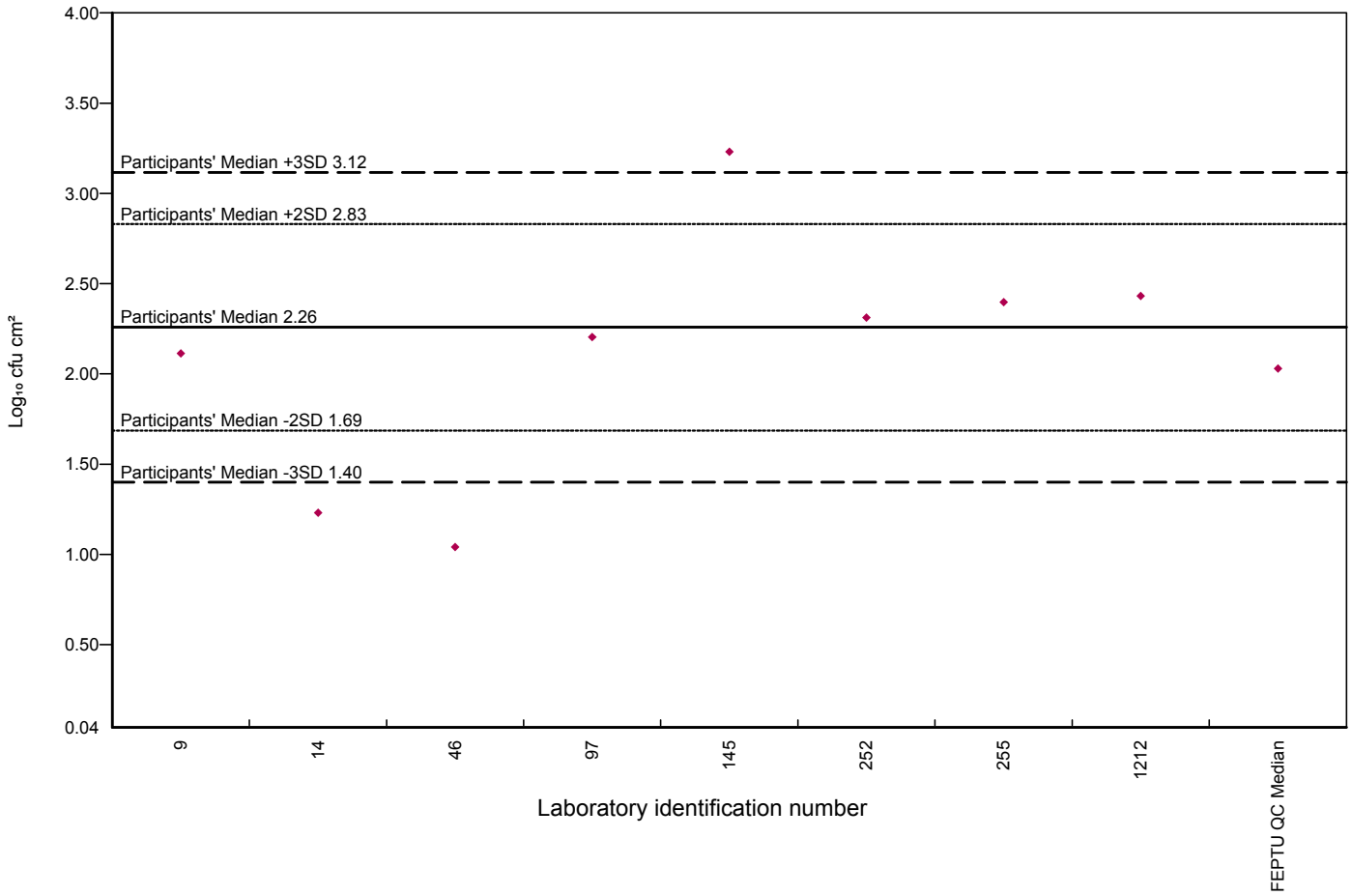
PH0030 - Aerobic Colony Count (30ºC)

Key: ◆ Reported result



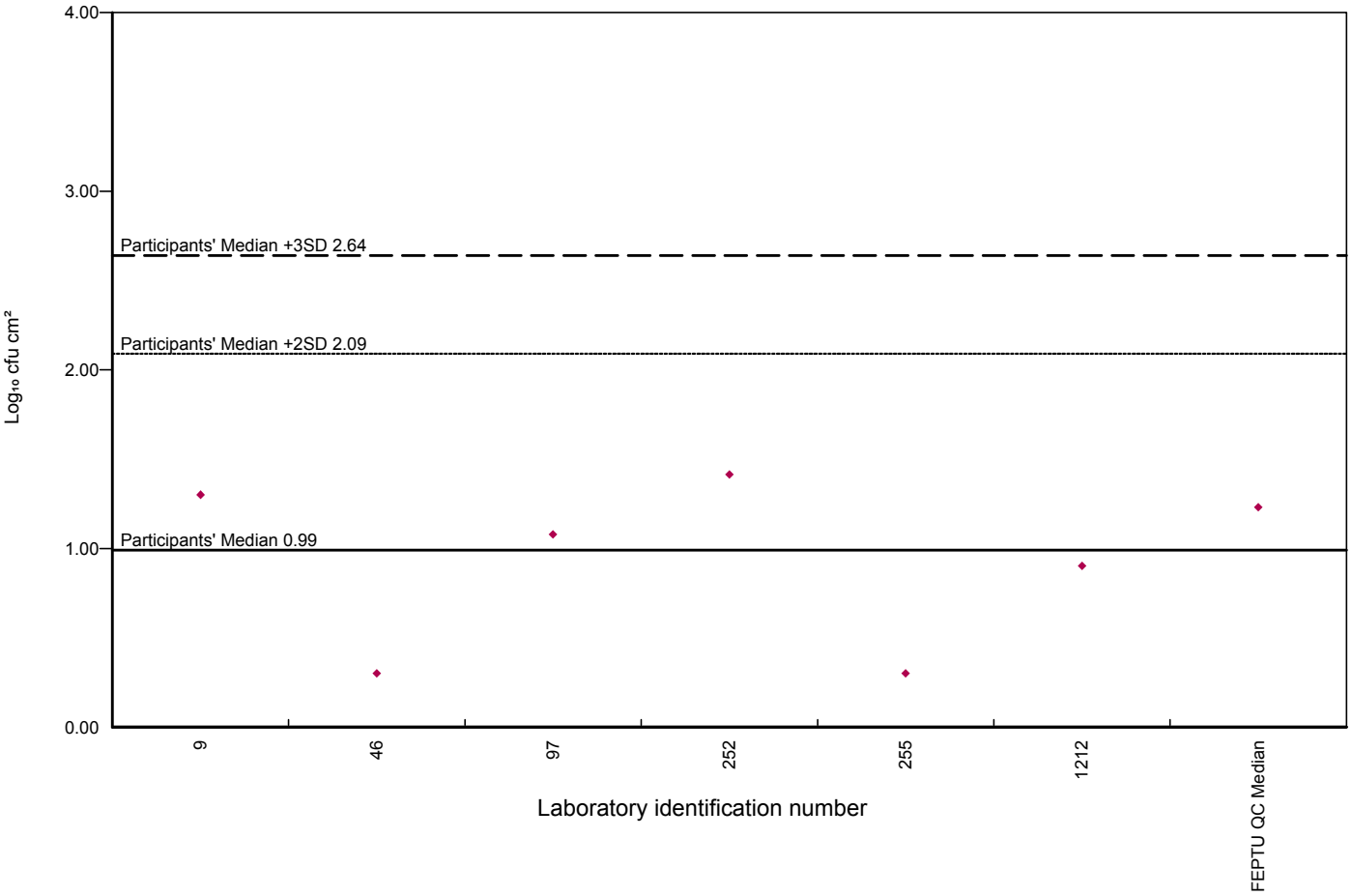
PH0030 - *Enterobacteriaceae*

Key: ◆ Reported result



PH0030 - *Escherichia coli*

Key: ◆ Reported result



Comments for distribution PH5

Nine laboratories analysed the samples from this distribution. All laboratories identified that *Clostridium perfringens* was the main food borne pathogen causing this outbreak.

The table below shows the additional examinations carried out by the participants and the reported results. Any incorrect results reported are shown in red.

Additional examination	Number of laboratories examining	Reported results	Number of laboratories examining	Reported results
	Sample PH0025 (Chicken stir fry)		Sample PH0026 (Egg fried rice)	
Bacillus cereus	8	<10 (1) <20 (2) <100 (4) <1000 (1)	9	<10 (2) <20 (2) <100 (3) <200 (1) <1000 (1)
Campylobacter spp.	6	Not detected (6)	5	Not detected (5)
Coagulase-positive staphylococci	2	<20 (2)	2	<20 (2)
Escherichia coli O157	3	Not detected (3)	3	Not detected (3)
Listeria spp. (including mono)	1	<10 (1)	2	<10 (1) <20 (1)
Listeria monocytogenes	1	<10 (1)	1	<10 (1)
Salmonella spp.	9	Not detected (9)	9	Not detected (9)

	Sample PH0027 (Chicken satay)		Sample PH0028 (Random area swab taken the from a mincemeat grinding machine)	
Bacillus cereus	8	<10 (2) <20 (2) <100 (3) <1000 (1)	2	<10 (1) <100 (1)
Campylobacter spp.	6	Not detected (6)	3	Not detected (3)
Coagulase-positive staphylococci	2	<20 (2)	2	<10 (1) <100 (1)
Escherichia coli O157	3	Not detected (3)	4	Not detected (4)
Listeria spp. (including mono)	1	<10 (1)		
Listeria monocytogenes	1	<10 (1)		
Salmonella spp.	9	Not detected (9)	8	Not detected (8)

	Sample PH0029 (Template area swab taken from a staff member's apron)		Sample PH0030 (Template area swab taken from a raw meat preparation area)	
Bacillus cereus	4	<1 (2) <2 (1) <10 (1)	3	<1 (1) <2 (1) <10 (1)
Campylobacter spp.	2	Not detected (2)	2	Not detected (2)
Coagulase-positive staphylococci	5	<1 (2) <2 (1) <10 (1) <20 (1)	3	<1 (1) <2 (1) <10 (1)
Escherichia coli O157	3	Not detected (3)	4	Not detected (4)
Salmonella spp.	9	Not detected (9)	9	Not detected (9)

Additional comments:

Reporting results for swabs
Participants are advised that the standard international reporting of results where no growth is obtained in a swab sample is <100 from a random area swab and <1 from a template area swab (100sq cm).

Statistical evaluation
Participants are advised that for a robust statistical evaluation at least 20 reported results are required for a parameter. When statistical calculation is based on 10 – 19 result, they should be interpreted with caution as they may be overly influenced by outlying results. When there are fewer than 10 reported results, the statistics are not considered robust enough to enable scoring. Therefore for this scheme, participants will notice that for some sample parameters, the statistics have been calculated for information and is not scored.

Participants are informed that due to the low number of participation the Public Health Scheme will be withdrawn from the next distribution year (April 2015).

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