



EURL-Campylobacter

Survey 'Inventory for the EURL- Campylobacter Workshop 2023'

Helena Höök

EURL-Campylobacter Workshop 2023



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From the work programme 2023–2024

- Comment in **periodic review of ISO 10272-1:2017** in 2022: performance of **Preston broth** should be improved in the next version of the standard
- The EURL will perform a **literature study** to screen for **alternate enrichment broths** and **possible improvements** to the Preston broth
- EURL-*Campylobacter* workshop 2022: The NRL network agrees to participate in a **joint study to evaluate media for enrichment** if potential candidates are found
 - **Preliminary testing** by EURL-*Campylobacter* in the current work programme
 - Testing by the NRLs as **part of a future PT**
- 2023: **Survey to the NRL network** to collect information about enrichment procedures for detection of *Campylobacter*, with focus on the **performance of Preston broth** and **boot sock swabs**

24 answers

Is your laboratory accredited for detection of *Campylobacter* spp. according to ISO 10272-1?

Yes: 22

No: 2

Does your laboratory analyse boot sock samples for detection of *Campylobacter* (in real samples, i.e. other than within proficiency tests or similar tests)?

Yes: 4

No: 20

Do you normally use ISO 10272-1 for detection of *Campylobacter* spp. in routine samples?

Yes: 23

No: 1

When using procedure B, do you use Preston broth with the salt supplement added, as described in ISO 10272-1:2017/Amd 1:2023?

Answer	Count
Yes	14
No	3
Preston broth not used	7
N	24

Specify matrices where you use detection procedure A (enrichment in Bolton broth).

- Answers: 19, whereof 17 have specified at least 1 matrix other than PTs
- Poultry meat (5)
- Poultry skin (2)
- Other meat (3)
- Frozen meat/products (3)
- Cooked meat/products (4)
- RTE food (1)
- Processed products (1)
- Cheese (1)
- Food without further specification (3)
- Water (1)
- Animal clinical samples (2)
- Swabs from carcasses (1)

Specify matrices where you use detection procedure B (enrichment in Preston broth).

- Answers: 16, whereof 13 have specified at least 1 matrix other than PTs
- Raw meat (7)
- Neck skin (3)
- Raw milk (4)
- Food without further specification (1)
- Environmental samples (3)
- Waste water (1)
- Boot sock samples (1)
- Animal clinical samples (3), mostly faeces
- Liver or bile for detecting *C. hepaticus* (1)

Specify matrices where you use detection procedure C (direct plating).

- Answers: 22, whereof 18 have specified at least 1 matrix other than PTs
- Poultry skin (2)
- Meat (1)
- Caecal samples (15) from poultry and pig
- Faeces (10)
- Placenta (2)
- Other material from the reproductive organs (1)
- Environmental samples (2)
- Water (2)

Are you routinely using a combination of procedures A, B and/or C, i.e., more than one procedure, for detection of *Campylobacter* spp.?

Answer	Count
Yes, always	1
Yes, sometimes	3
Never	19
N	23

If yes, please describe those circumstances and the reasons behind it.

- 3 labs mention use of direct plating (C) in combination with enrichment (A or B), not A and B in parallel
- 2 labs comment on use for research and/or method improvement purposes

How often do you encounter β -lactam resistant bacteria (growth of other than *Campylobacter* on mCCDA plates) in routine samples where procedure A, B or C have been applied?

Answer	A Bolton	B Preston	C Direct
Daily	1	1	3
Weekly	1	0	3
Monthly	3	1	4
Never	1	3	1
Not performed	16	17	11
N	22	22	22

Do you use other enrichment broths than those specified in ISO 10272-1 without β -lactams, such as cefoperazone?

Yes: 0

No: 24

Do you follow the criteria for performance testing of culture media for *Campylobacter* as described in ISO 10272-1:2017/Amd1?

Answer	Count
Yes	13
No, but as in ISO 10272-1:2017	5
No	6
N	24

If no, please describe the criteria for performance testing of culture media.

- 2 labs follow a procedure from NMKL
- 1 lab purchases media with a certificate of analysis from the company
- 1 lab has its own procedure with tests of productivity, specificity and selectivity
- 1 lab uses a simplified procedure
- 1 lab does not perform performance testing

Which *Campylobacter* control strains do you use for testing productivity of Preston broth and Bolton broth?

Answer	Preston	Bolton
<i>Campylobacter jejuni</i> WDCM 00005	7	7
<i>Campylobacter jejuni</i> WDCM 00156	4	4
<i>Campylobacter coli</i> WDCM 00004	8	8
<i>Campylobacter coli</i> WDCM 00072	1	1
Other, please specify:	6	5
N (if performed)	18	17

Which non-*Campylobacter* control strains do you use for testing productivity and selectivity of Preston broth?

Answer	Preston	Bolton
<i>Escherichia coli</i> WDCM 00012	6	6
<i>Escherichia coli</i> WDCM 00013	12	12
<i>Staphylococcus aureus</i> WDCM 00032	2	2
<i>Staphylococcus aureus</i> WDCM 00034	8	9
Other, please specify:	3	1
N (if performed)	16	15

How often does the Preston broth and Bolton broth meet the criteria?

Answer	Preston	Bolton
Always	13	13
At least four of five batches	2	3
At least three of five batches	1	0
At least two of five batches	0	0
At least one of five batches	0	1
Never	1	0
Preston broth not tested	4	4
N	21	21

Freely comment the outcome and possible amendments done to performance testing in relation to the criteria.

- 1 lab: Laborious and time-consuming, could the tests be simplified?
- 2 labs: Preston and Bolton broth not used in routine

Which procedure do you use for detection of *Campylobacter* in boot sock samples?

Answer	Count
Procedure A in ISO 10272-1: enrichment in Bolton broth	0
Procedure B in ISO 10272-1: enrichment in Preston broth	4
Procedure C in ISO 10272-1: direct plating	1
Other: please describe below	0
N	4

If using enrichment, how much enrichment broth is added to the boot sock sample?

Answer	Count
Making up a tenfold dilution	1
Enough to cover the sample	2
Other, please describe below	0
A standardised amount of broth, please specify: 225 ml for a pair of boot socks	1
N	4

Conclusions and new questions

- The performance of Preston broth doesn't seem to be an issue for most participants in this survey
- On the other hand, few participants use enrichment procedures, and especially procedure B in Preston broth, for routine samples
- Most participants perform performance testing of media according to 10272-1:2017/Amd 1 or another standardised procedure
- Very few participants routinely analyse boot sock samples
- So, should we move on with this task?