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Community Reference Laboratory Antimicrobial Resistance

EQAS evaluation

Main objectives of the CRL EQAS's

- To support laboratories to assess and if necessary improve the quality of susceptibility testing
- To improve the comparability of antimicrobial susceptibility data reported by different laboratories
- To harmonise the breakpoints used within the EU

In general

- EQAS: Vital part in improving performance. Necessary when having and accreditation
- Your evaluation gives important information to help us improve future EQAS's
- Laboratories have different focus
- Differences need to be taken into consideration when comparing and analysing results

Optimising the EQAS

A sum-up of the many comments from the NRL's and the CRL

- Comparison of laboratories' performances
- Issues important for the difference in performance
  - Methods, media, disc concentrations
  - Results, guidelines, breakpoints, interpretation
  - Antimicrobials (important to use the EFSA panel and to include additional drugs)
- Categorising a deviation as 'minor', 'major' or 'very major':
  - Basis for evaluation of the interpretation
  - Further investigation of a deviation includes looking into method, media and breakpoints as a whole

The interactive web database

- We experience limitations – do not hesitate to point them out to us, some may be eliminated
- Registration of the ESBL-producing strains – we will look into this and hope to have a better solution for the next *Campylobacter/Salmonella*-EQAS
- Filling in the questionnaire and evaluation form in the database
- Please contact us in the CRL when there seems to be a problem

Further on

- Two EQAS's will be repeated:
  - EC/Staph/Ent
  - Salm/Camp
- The protocol will be made clearer and more explicit

- Specific problems or needs for advice – you have our contact information

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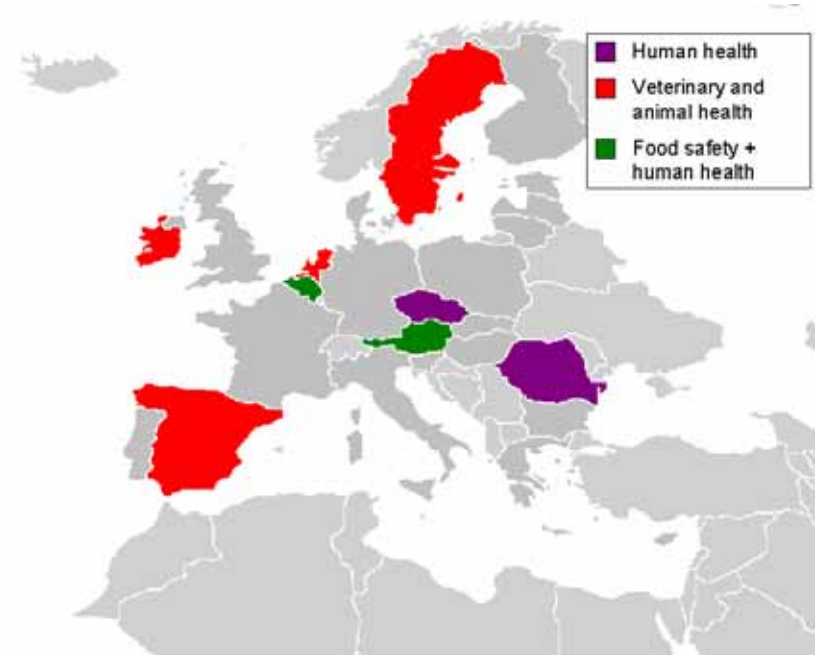
NRL questionnaire

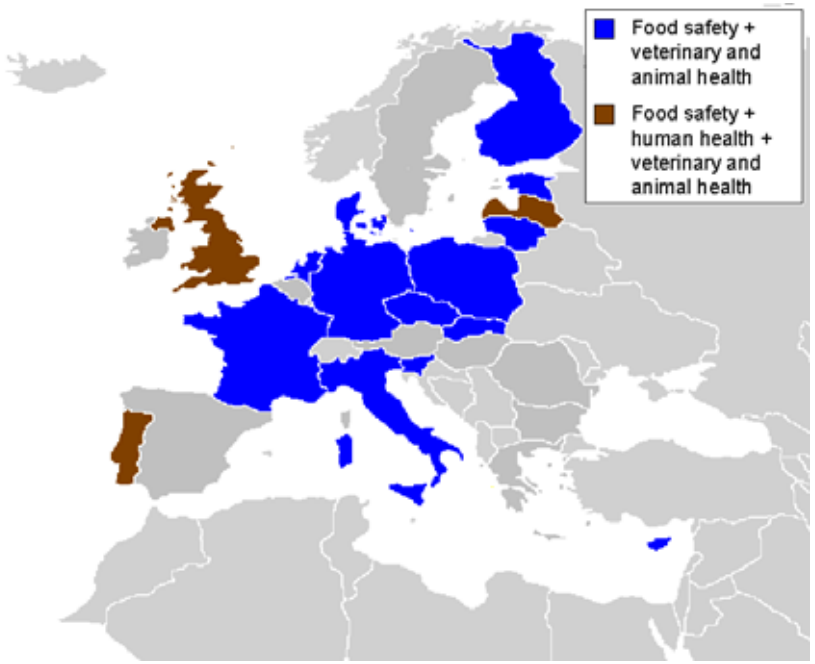
26 questionnaires

Introductory remarks

- Interpretation of questions as well as answers may be of importance for the conclusions
- A number of details are not included in the summary
- Some of the answers are summarised in the following
- No ‘correct’ answer to the questions
- We aim to improve the comparability of antimicrobial susceptibility data from different labs => working towards consensus about relevant issues, eg. breakpoints

The participants' responsibilities

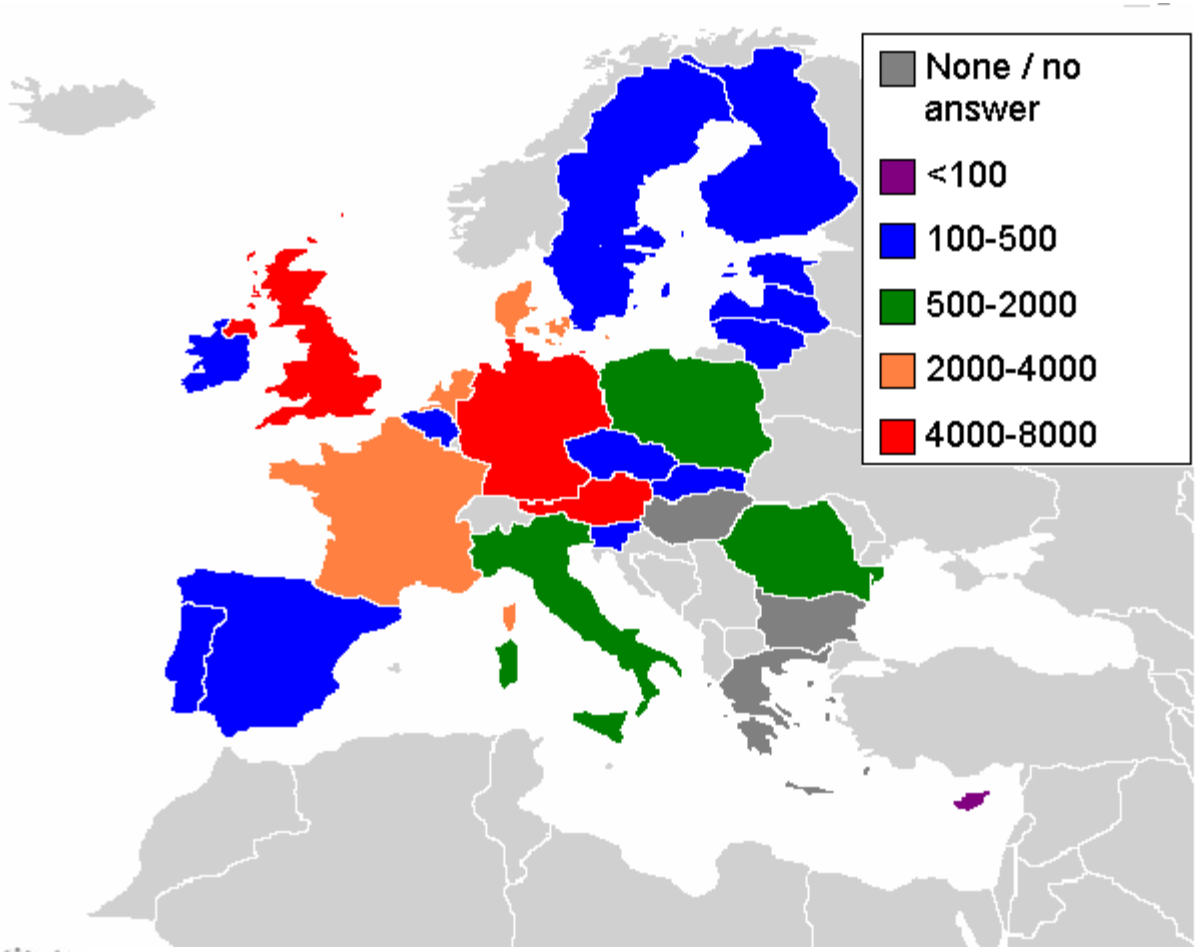




Please note that some countries have more than one laboratory as NRL-AR

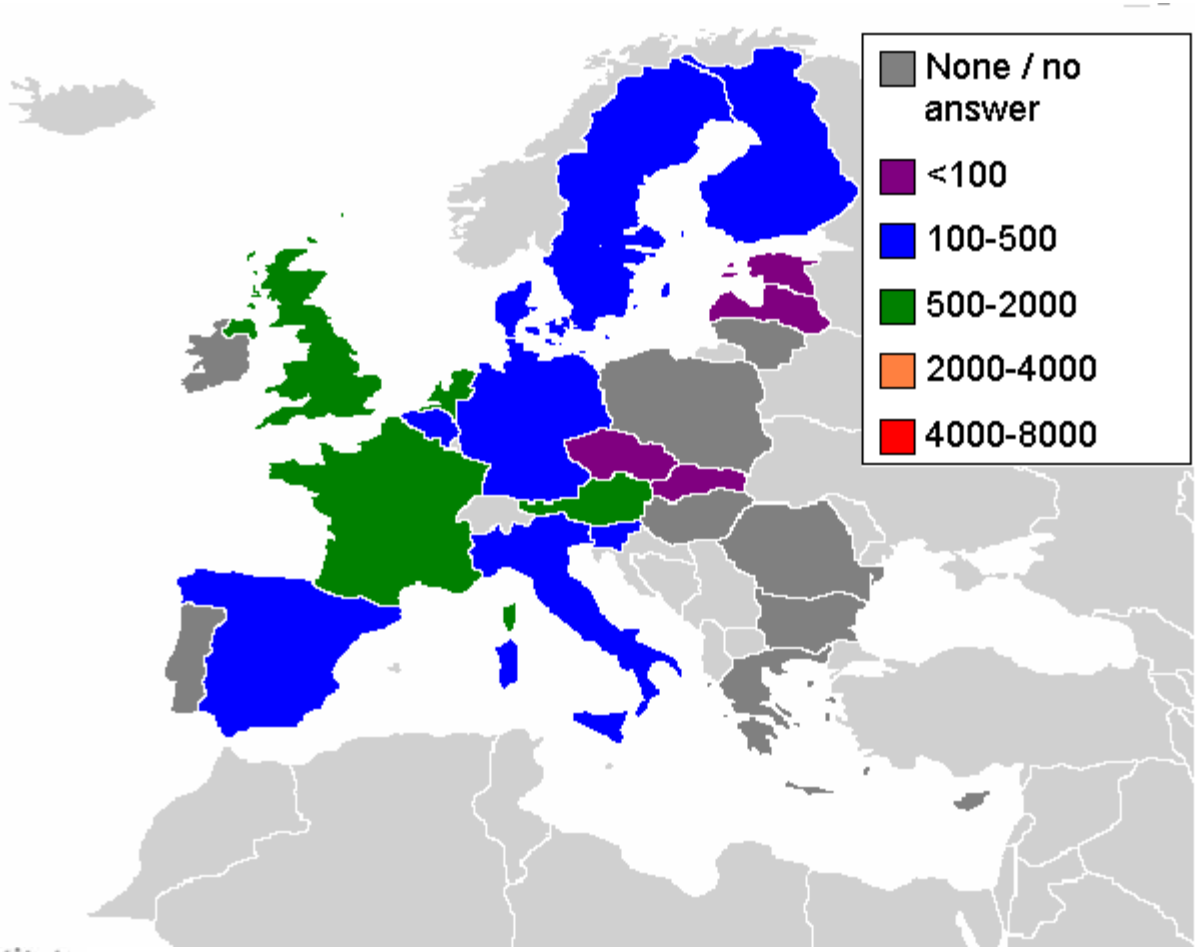
Salmonella

Number of isolates susceptibility tested in your laboratory pr year



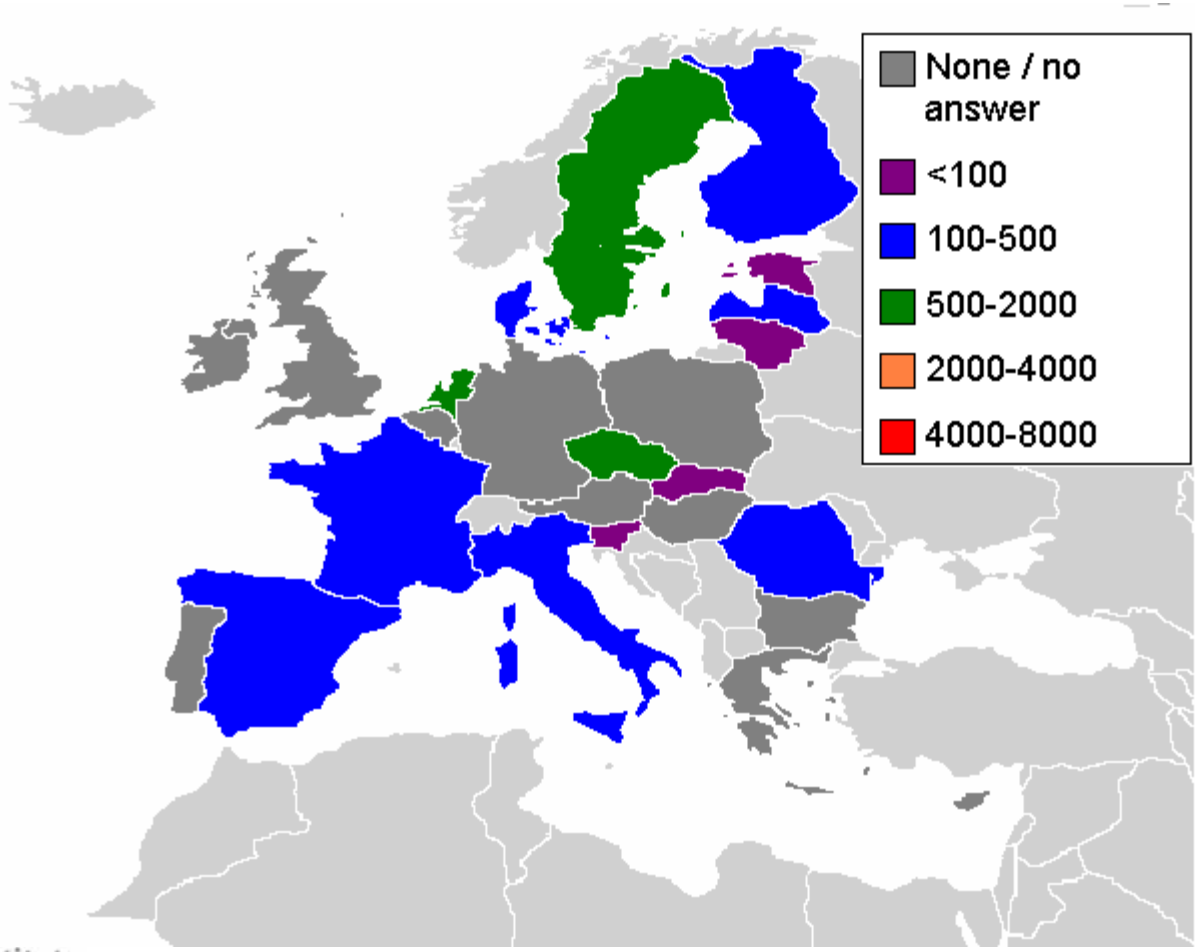
Campylobacter

Number of isolates susceptibility tested in your laboratory pr year



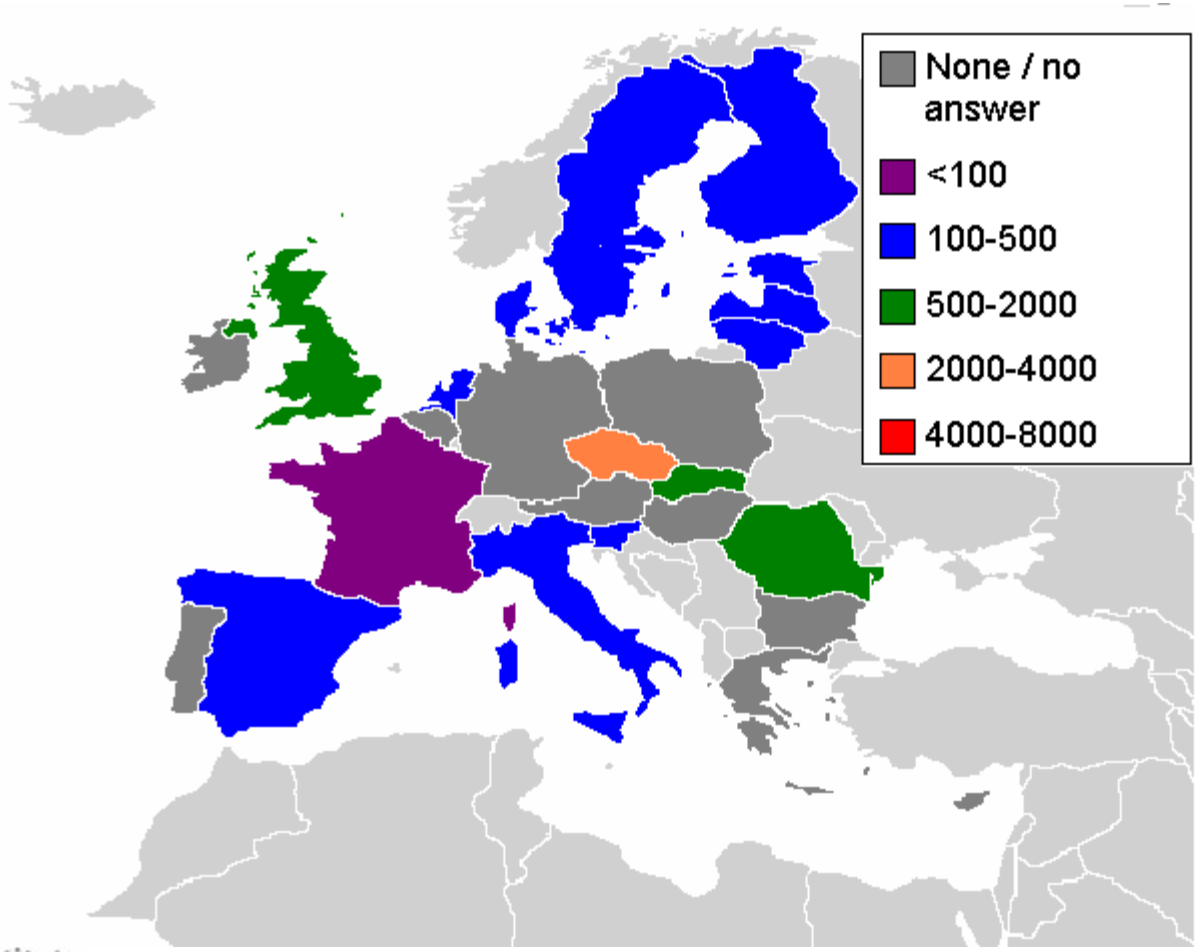
Enterococci

Number of isolates susceptibility tested in your laboratory pr year



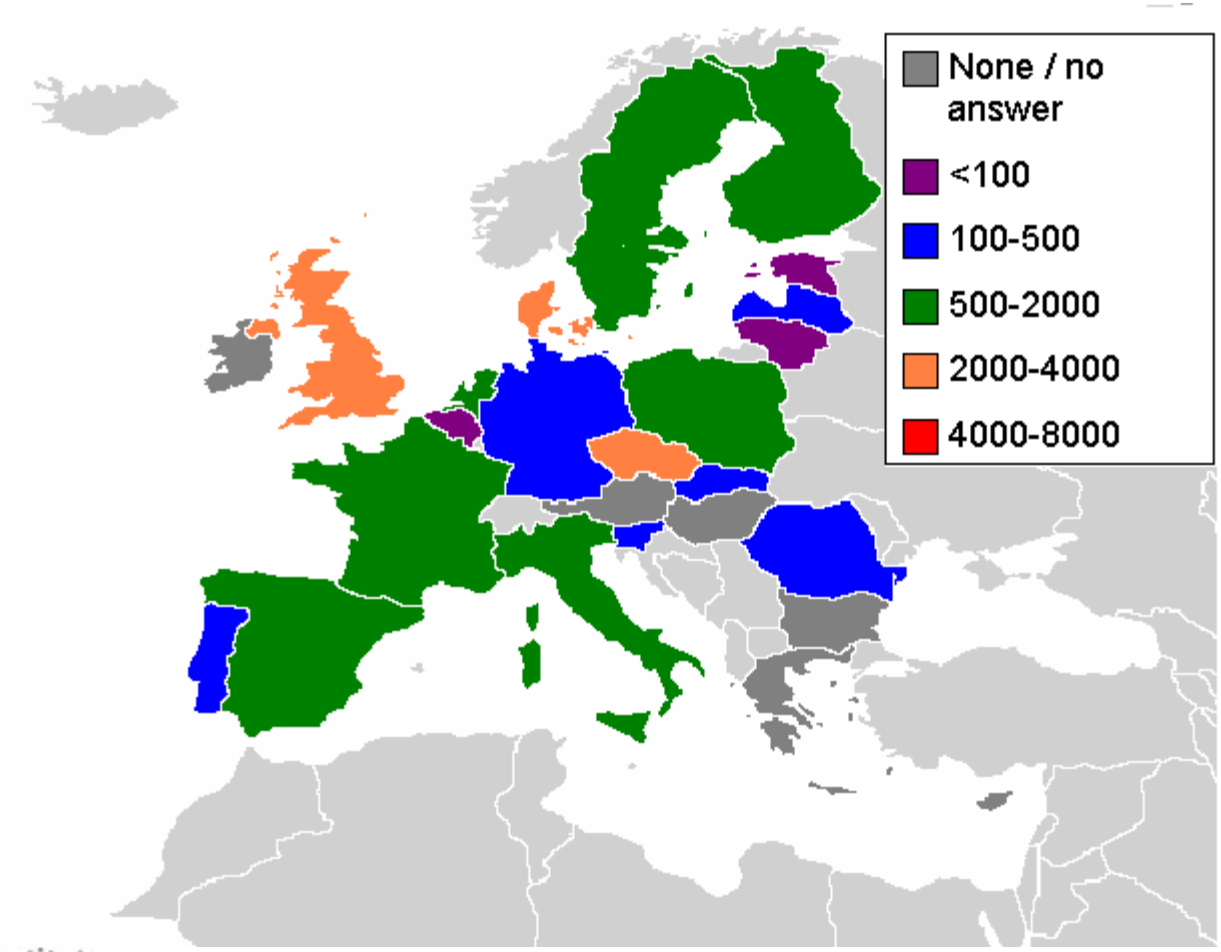
Staphylococci

Number of isolates susceptibility tested in your laboratory pr year



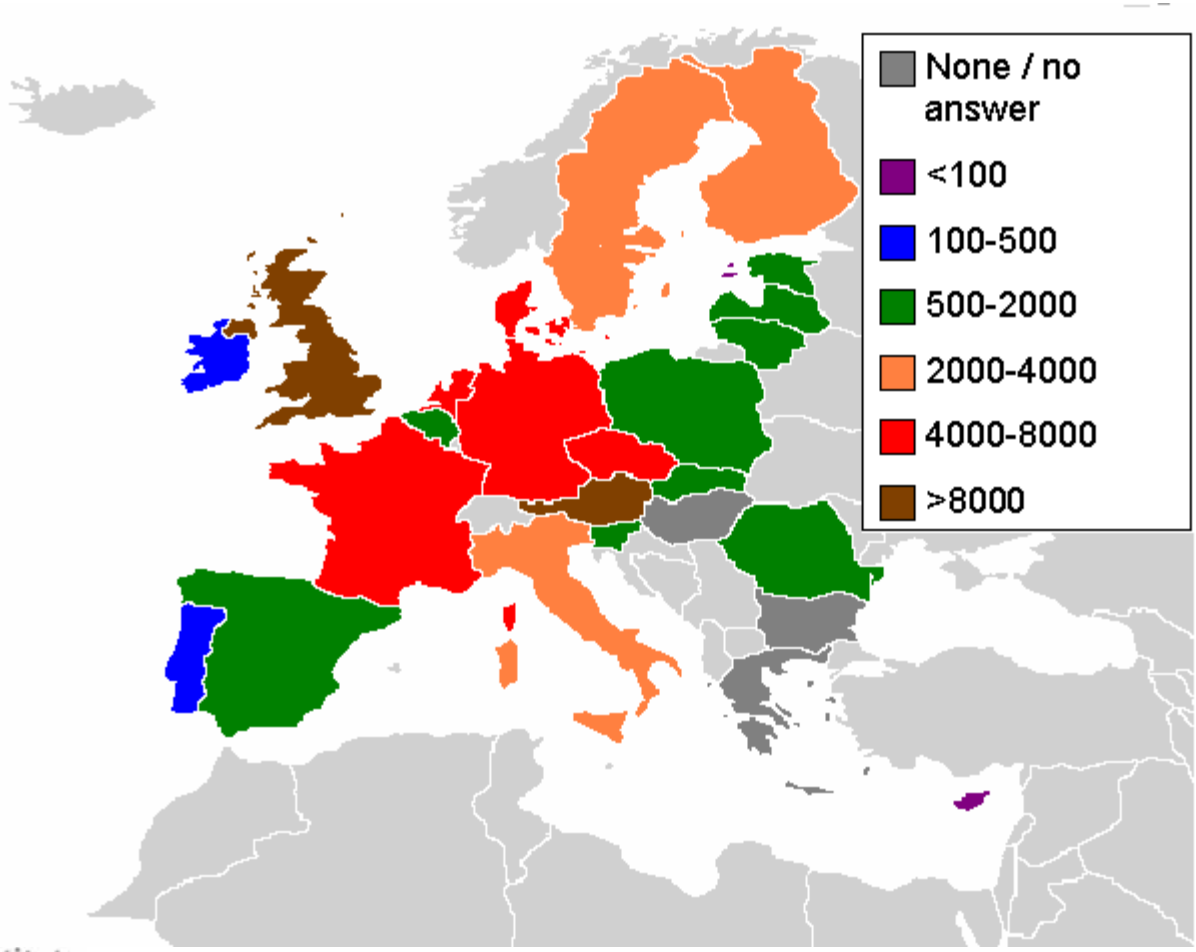
E. coli

Number of isolates susceptibility tested in your laboratory pr year

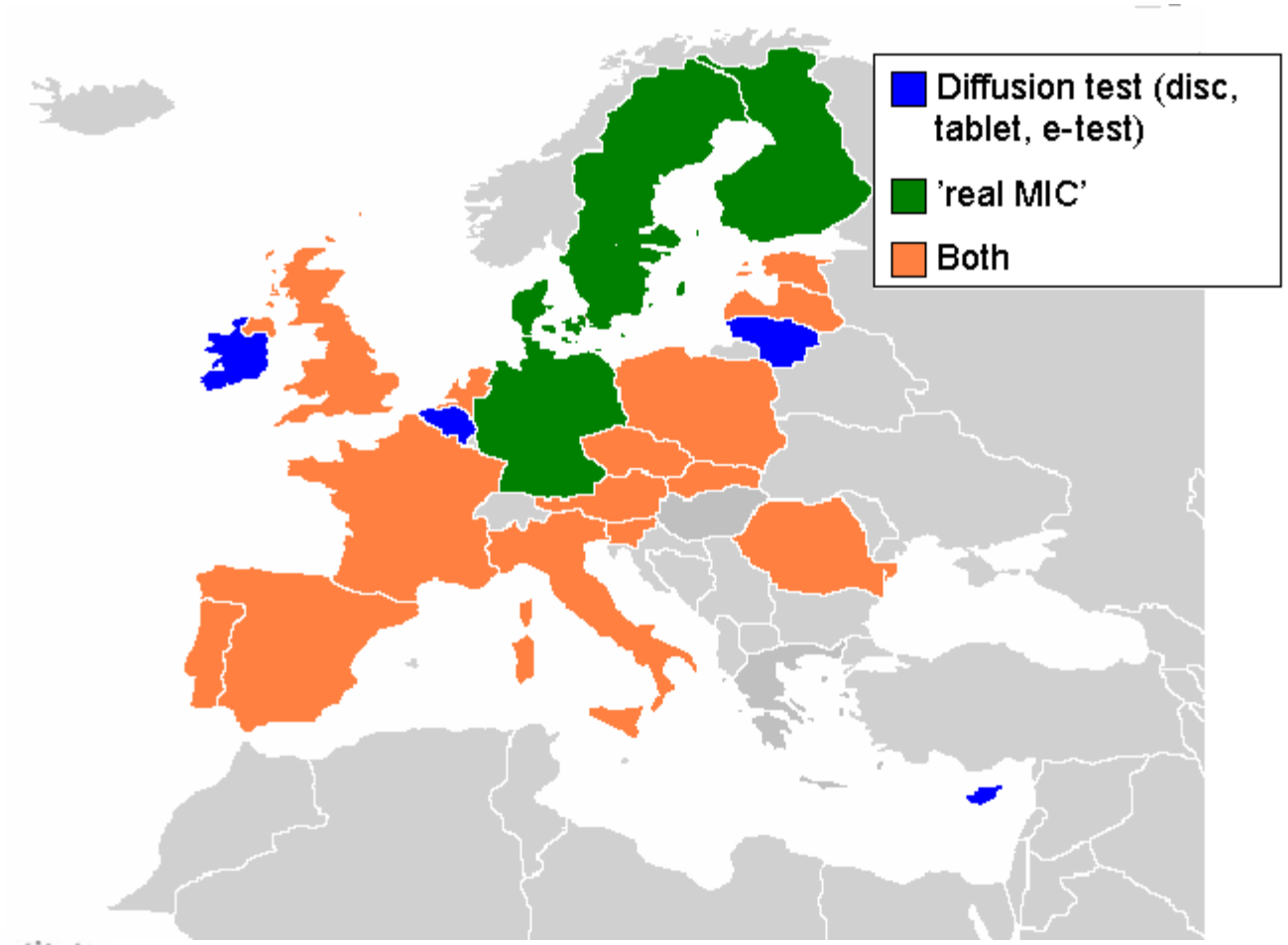


Total
(of the five mentioned)

Number of isolates susceptibility tested in your laboratory pr year

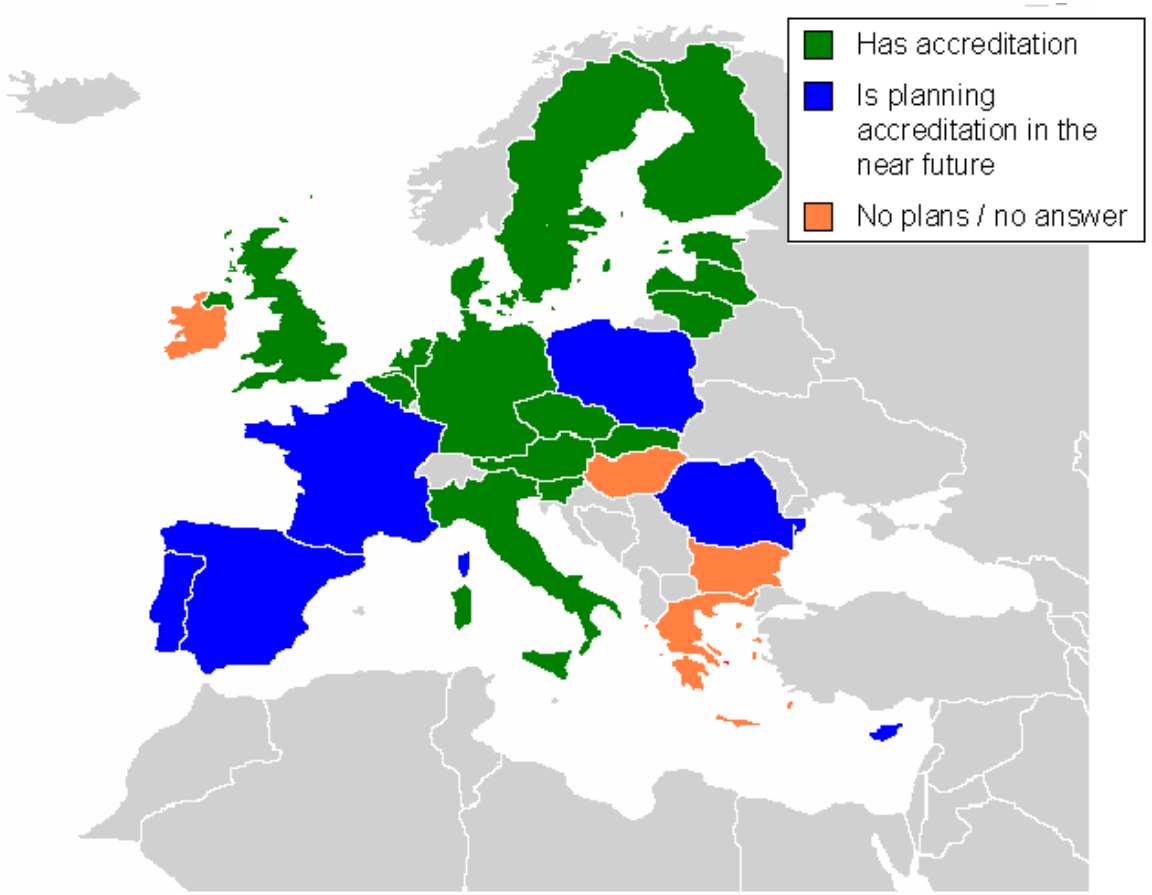


Method routinely used for AST

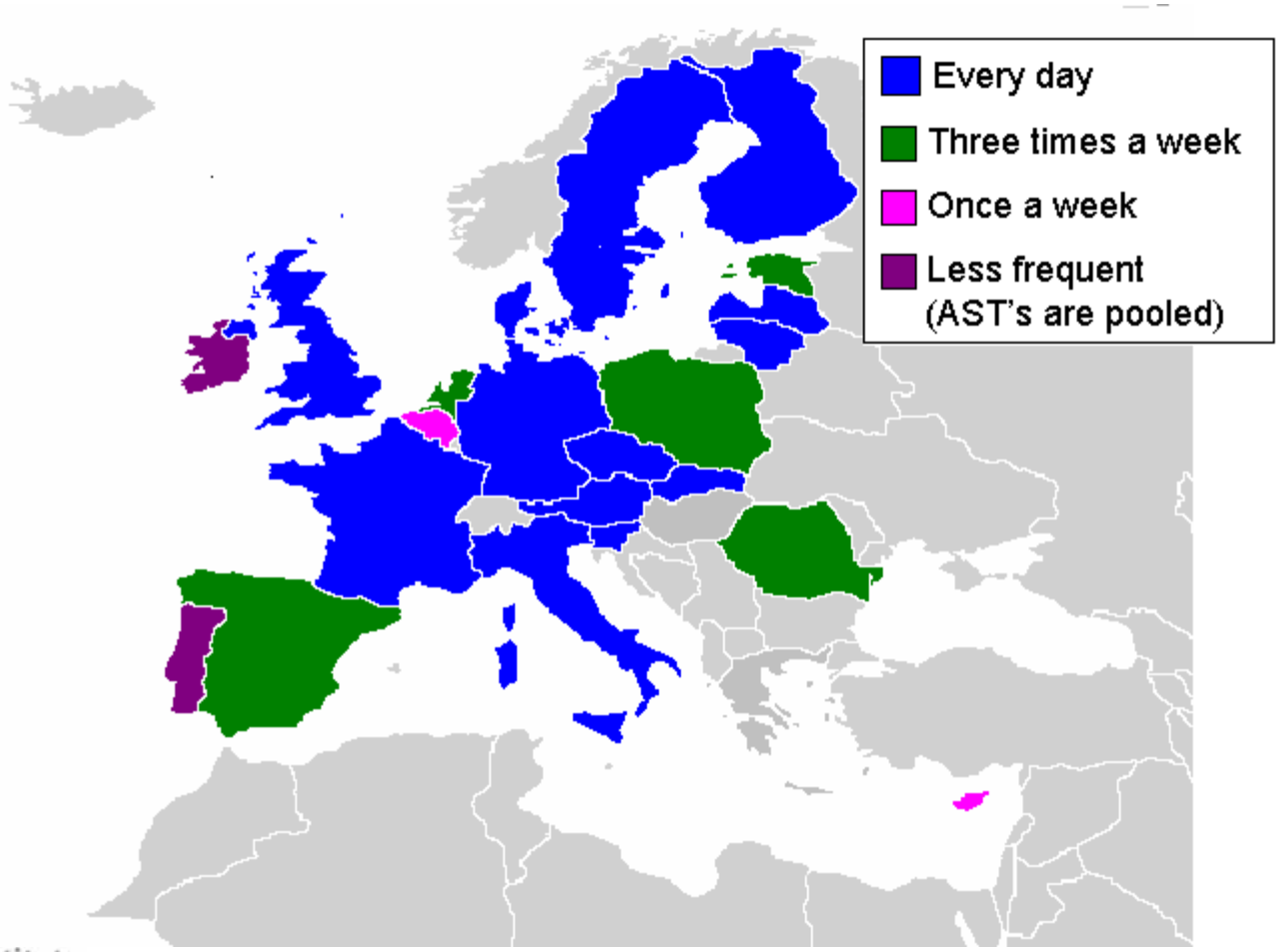


QC-system – accreditation/certification

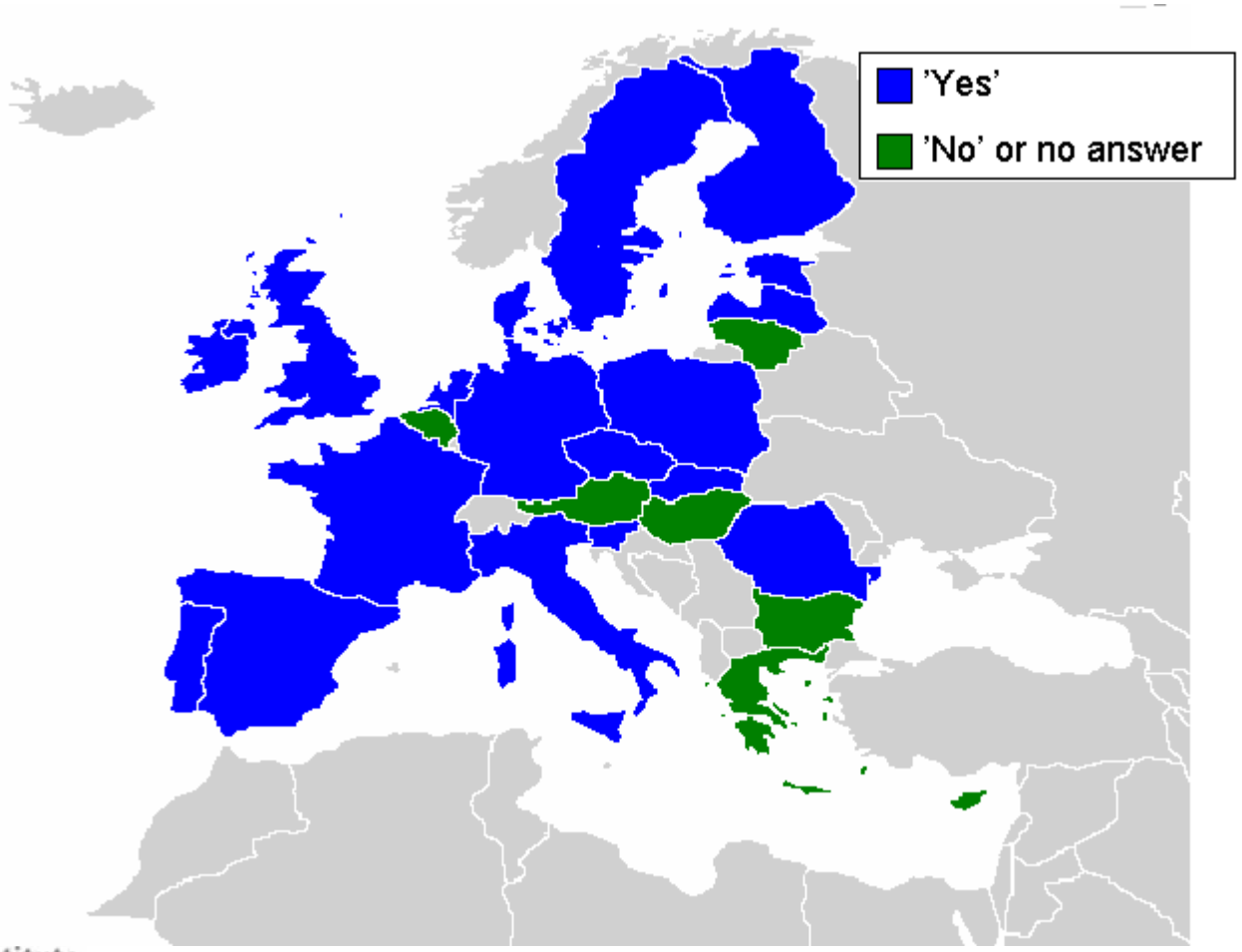
- Differences in which methods that are accredited/ certified
- Differences between laboratories within countries
- Most laboratories use or plan to use ISO 17025, one is planning on using ISO 15189



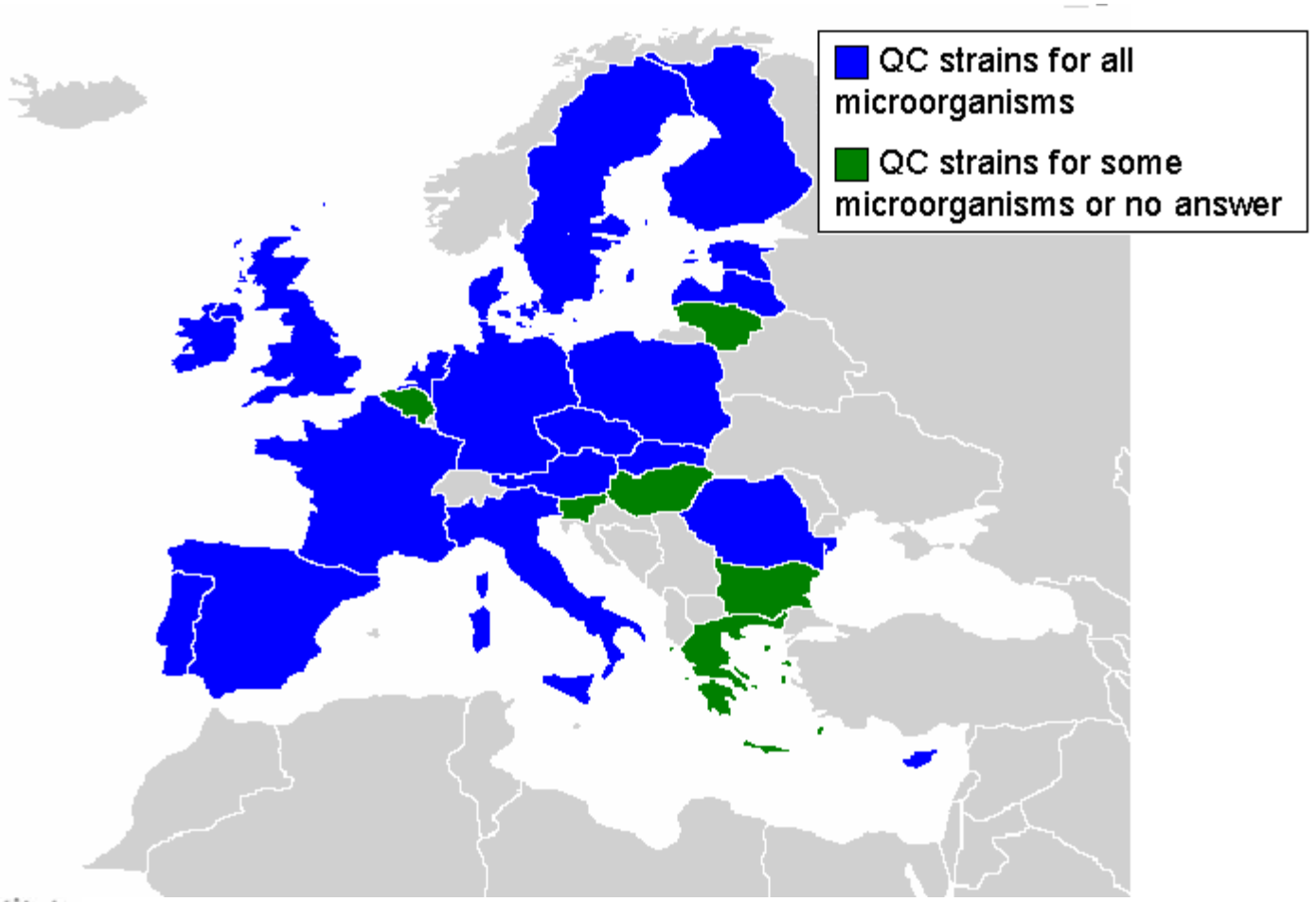
Frequency of AST in the lab



QC on each new batch of media



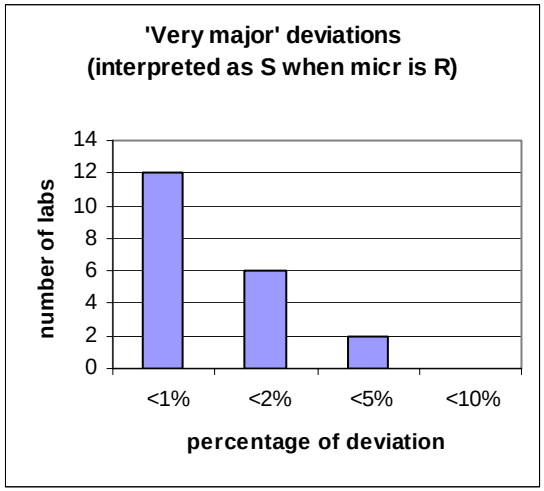
QC strains for AST

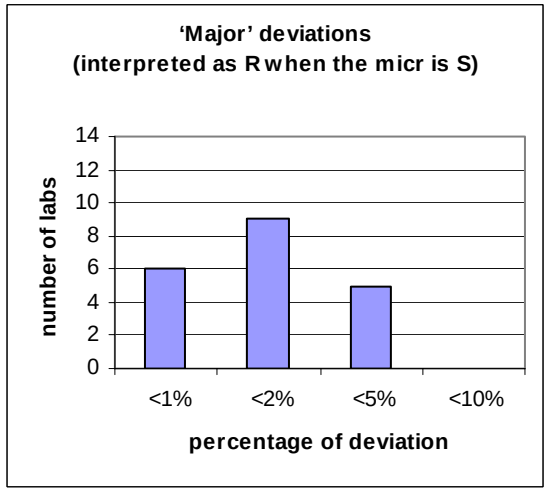


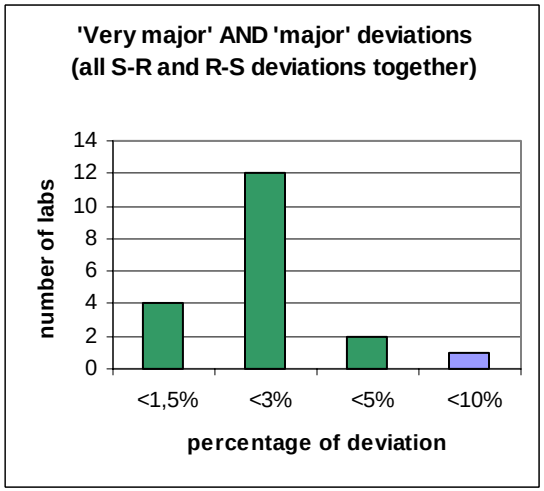
Deviation considered acceptable for AST - 1

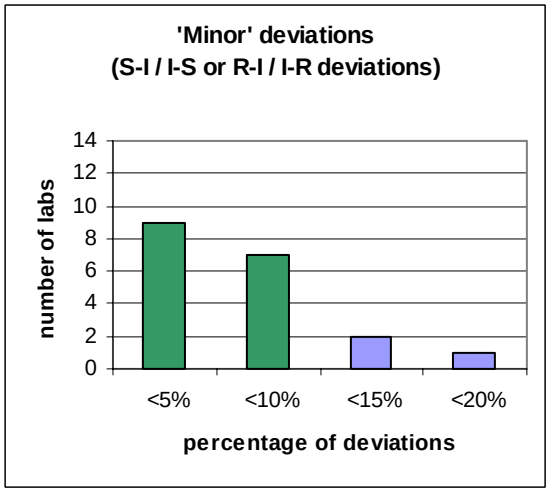
- Percentages are considered internal goals (working tools)
  - when performing AST on QC-strains
  - when taking part in an EQAS
- Measures the performance (focus can be eg. on strain, on antimicrobial or on the analysis date)
- Determining a deviation is based on the breakpoints used
- 19-20 participants informed about an acceptable value

Deviation considered acceptable for AST - 2









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Incubation of *Campylobacter*

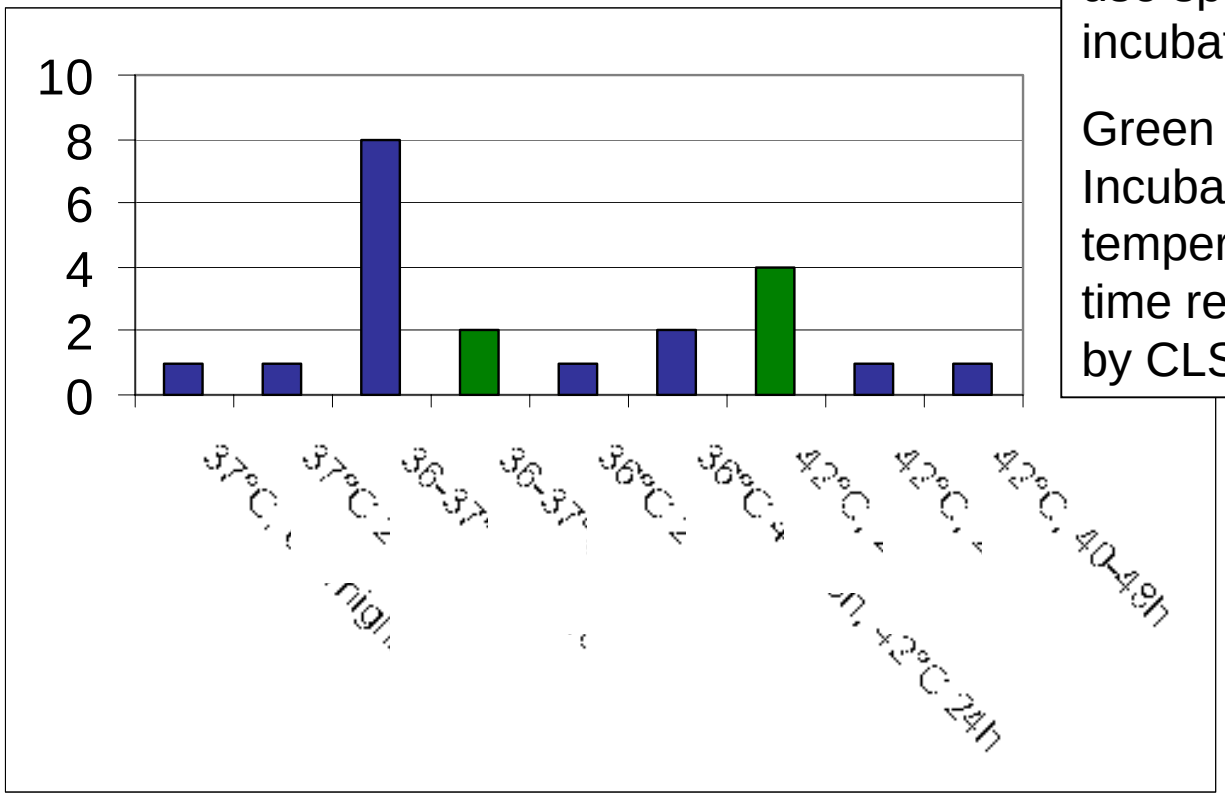
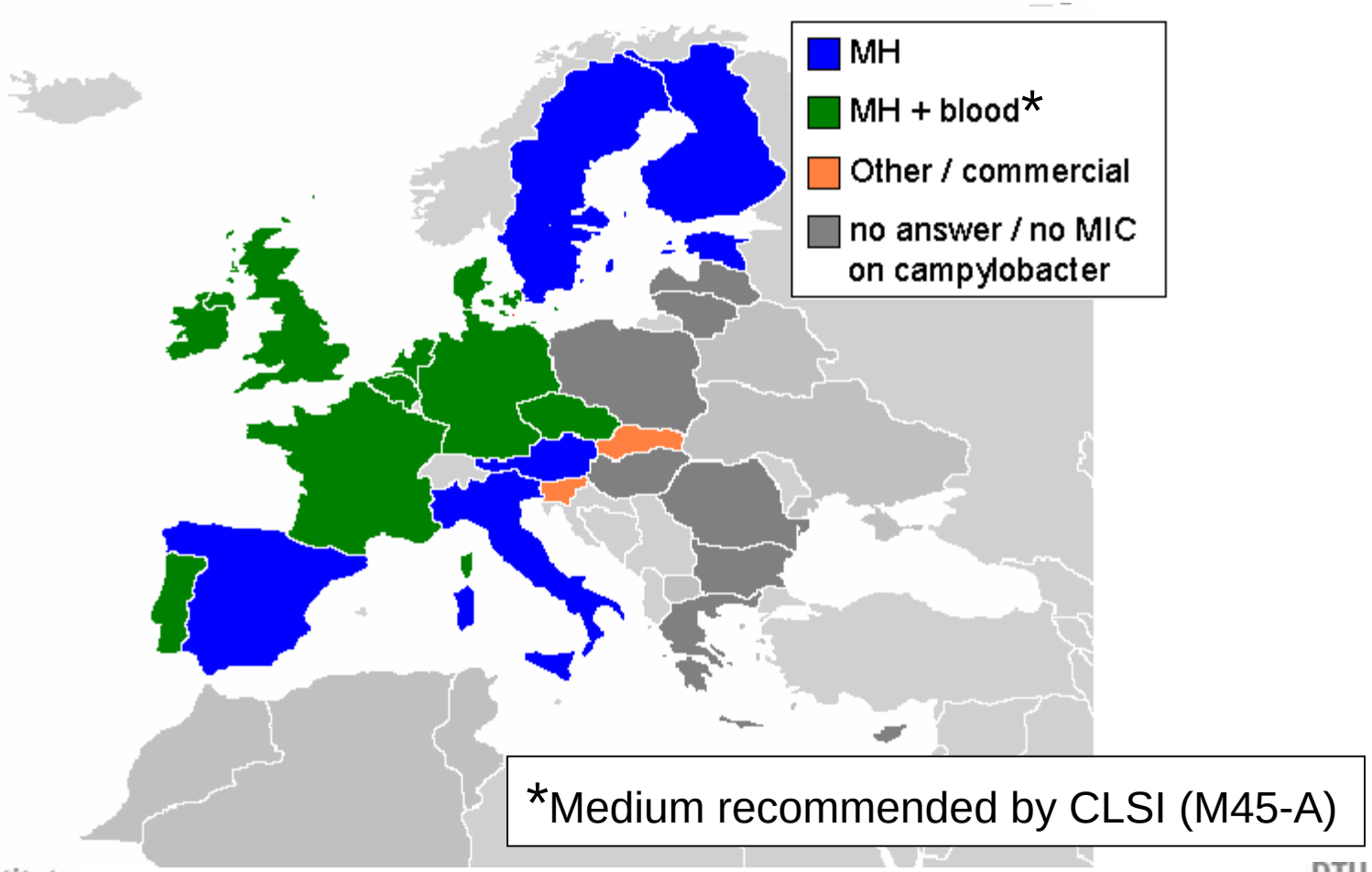


Chart shows number of laboratories that use specific incubation terms

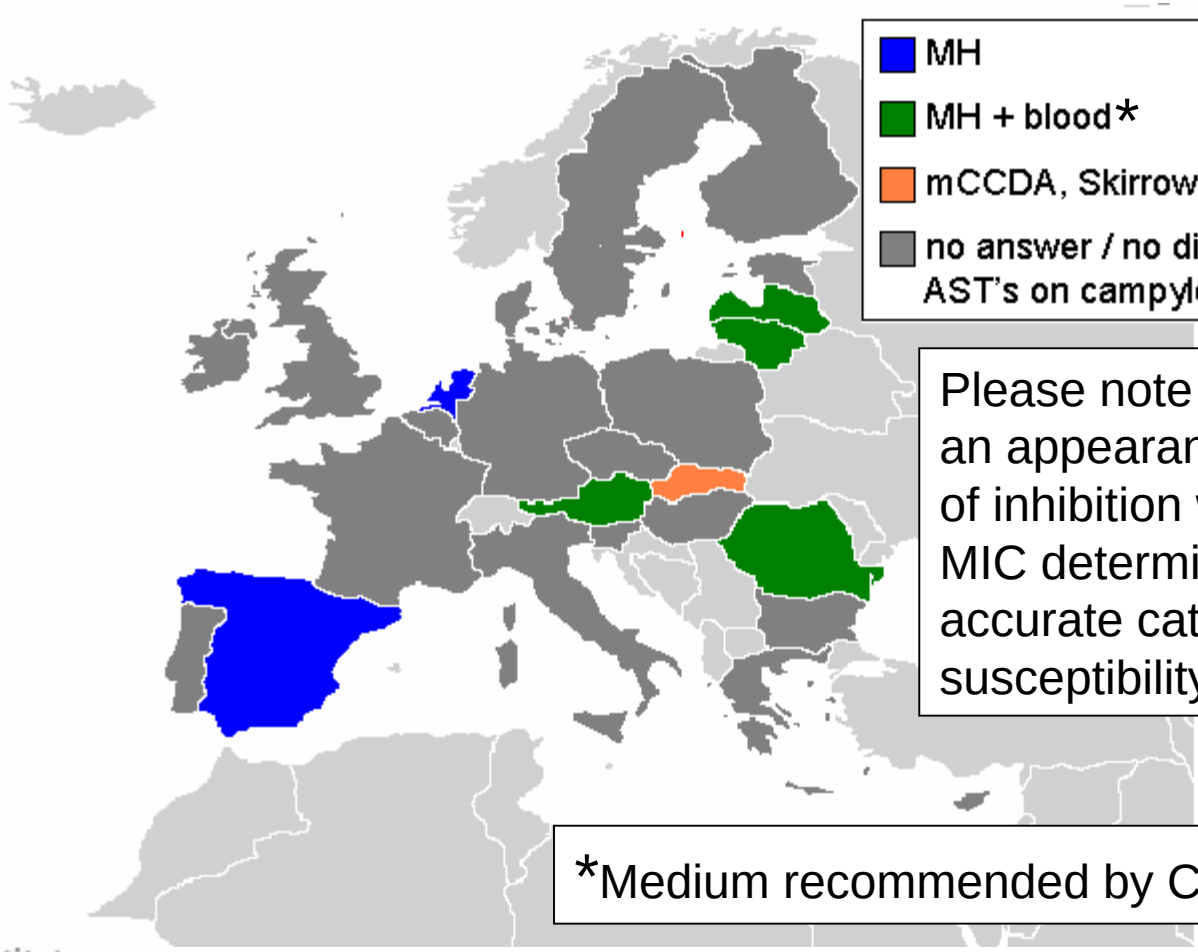
Green columns: Incubation temperature and time recommended by CLSI (M45-A)

Substrate used for AST of *Campylobacter* - MIC



*Medium recommended by CLSI (M45-A)

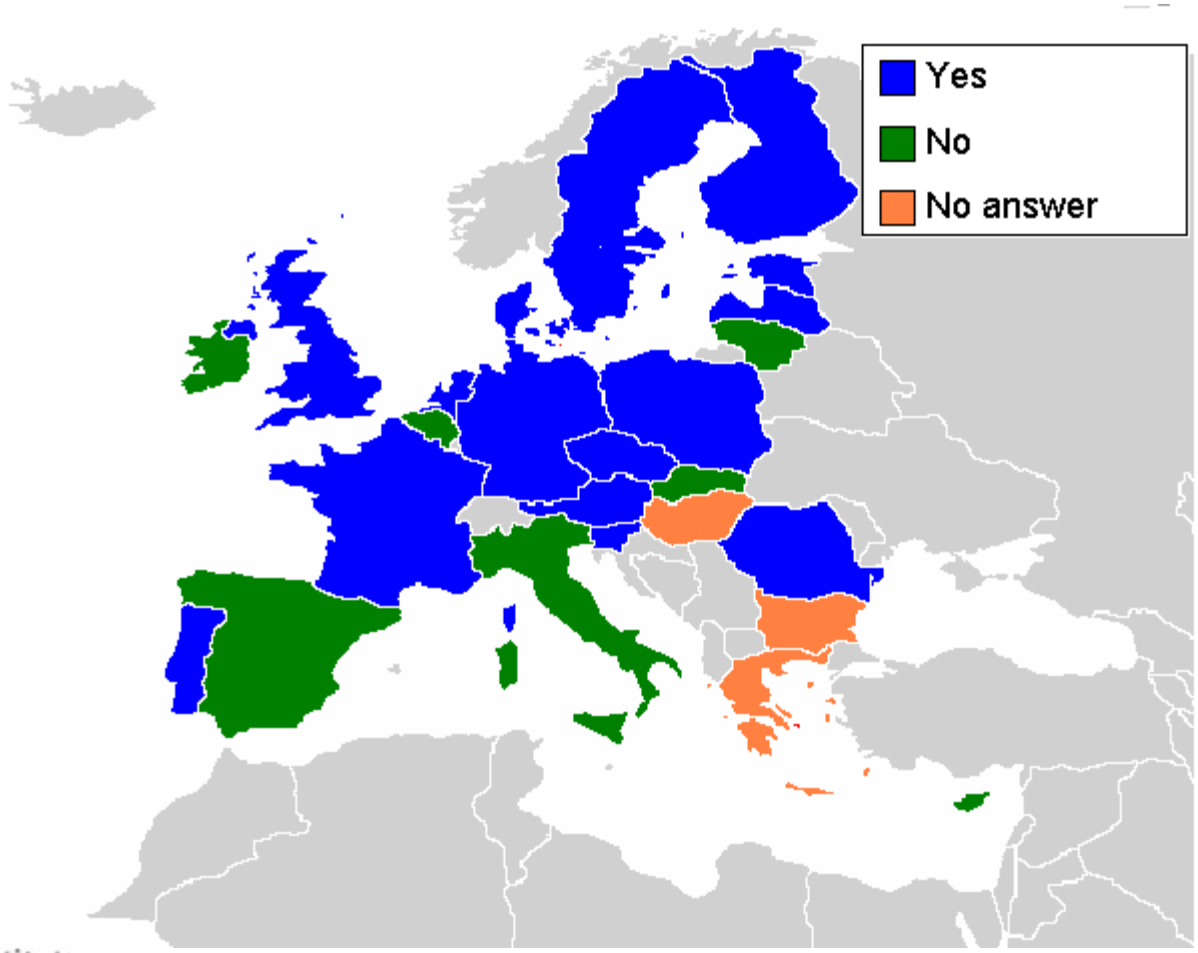
Substrate used for AST of *Campylobacter* - disc



Please note CLSI (M45-A): an appearance of any zone of inhibition would require MIC determination for accurate categorisation of susceptibility

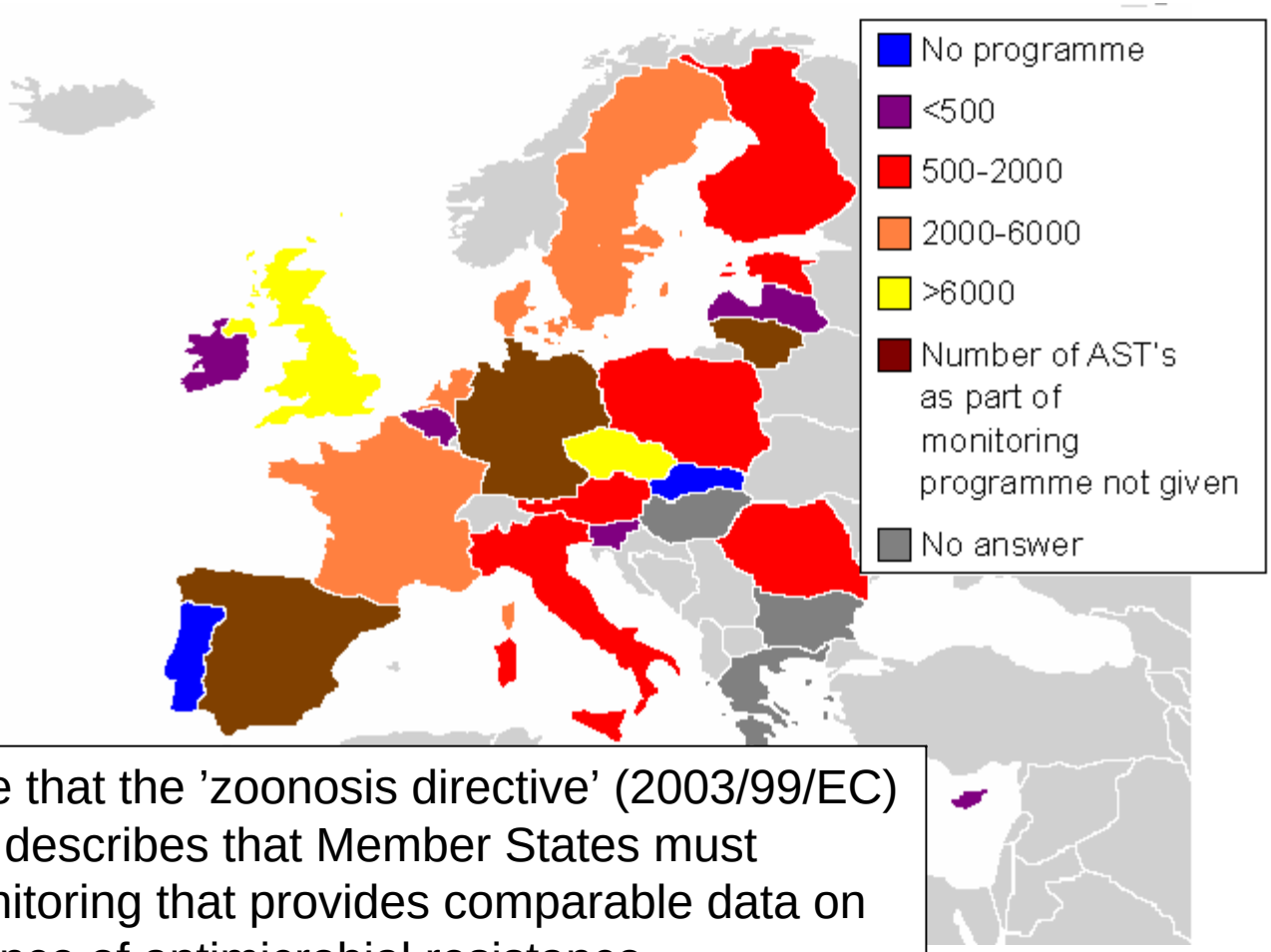
*Medium recommended by CLSI (M45-A)

National programme or policy for control of antimicrobial resistance



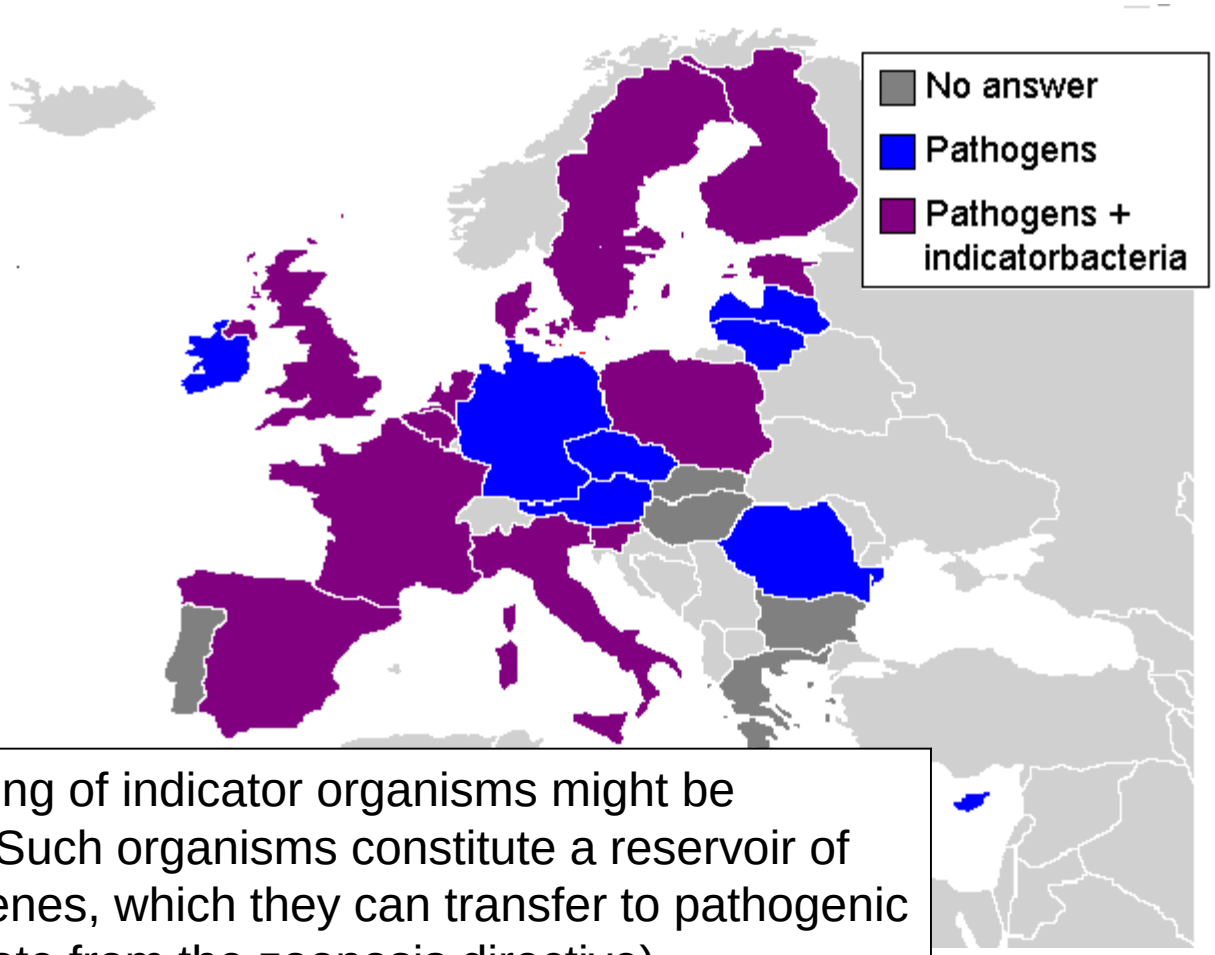
Monitoring programme

- approximate annual number of isolates susceptibility tested in the NRL as part of the monitoring programme



Please note that the 'zoonosis directive' (2003/99/EC) specifically describes that Member States must ensure monitoring that provides comparable data on the occurrence of antimicrobial resistance

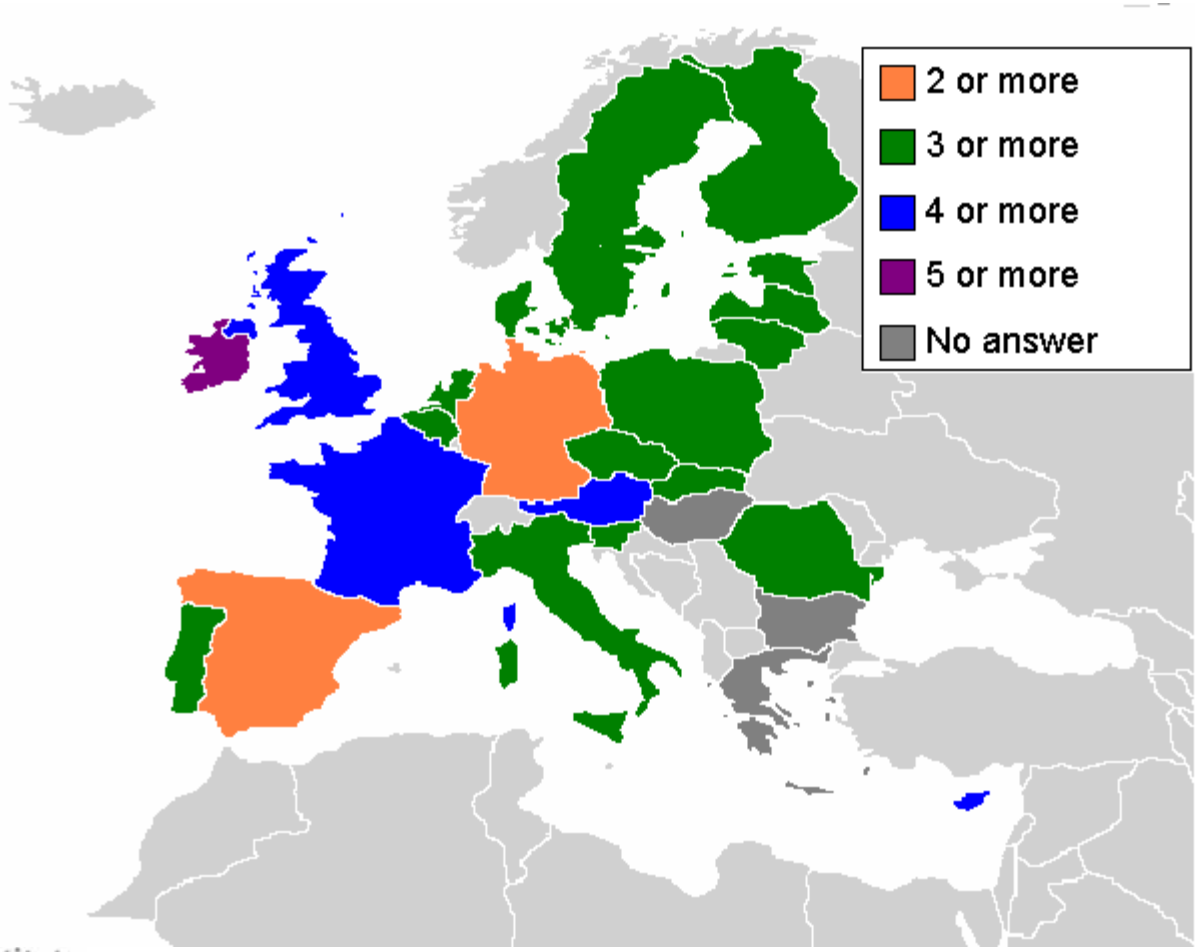
Origin of microorganisms included in monitoring programme



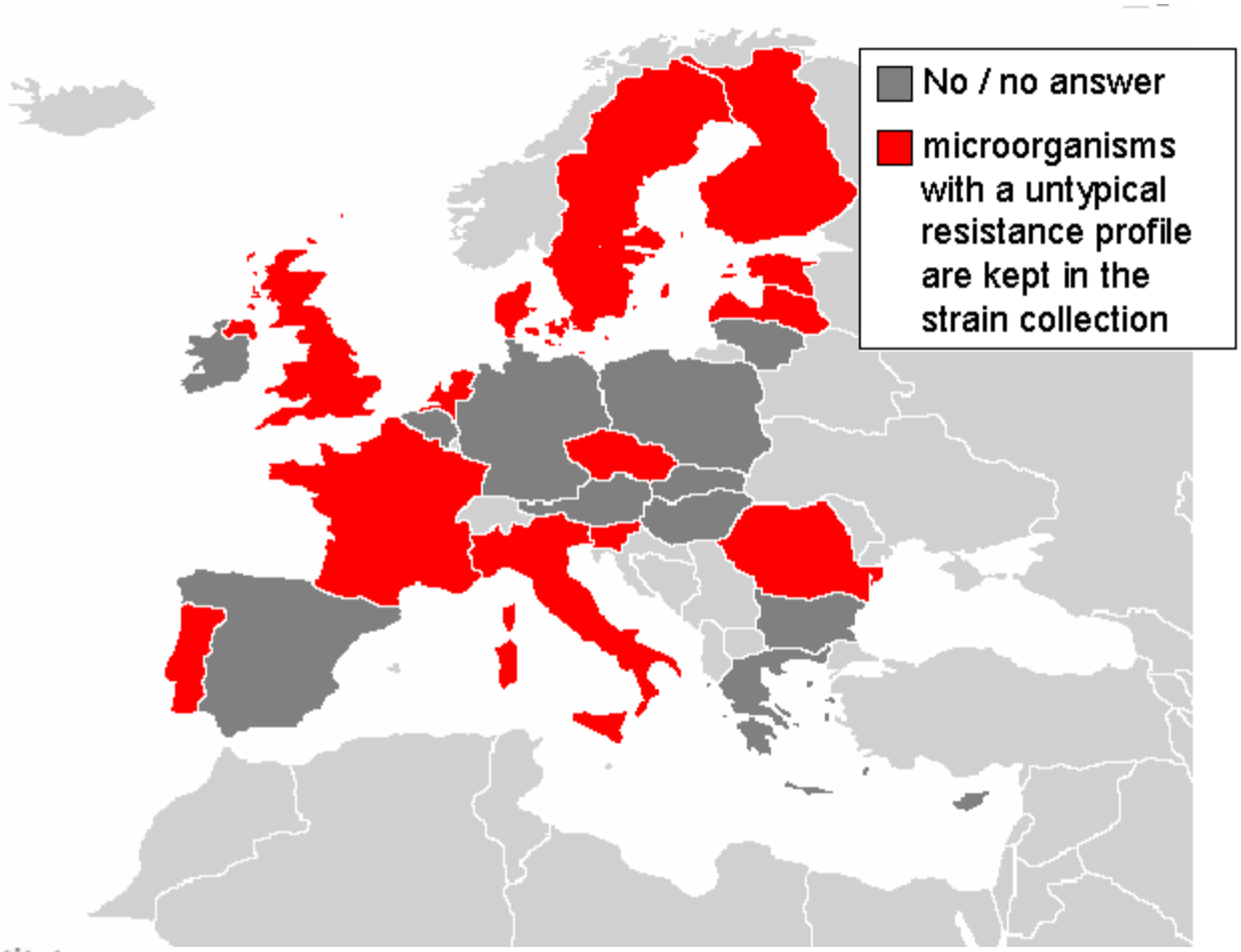
'The monitoring of indicator organisms might be appropriate. Such organisms constitute a reservoir of resistance genes, which they can transfer to pathogenic bacteria' (quote from the zoonosis directive)

Multiple resistance

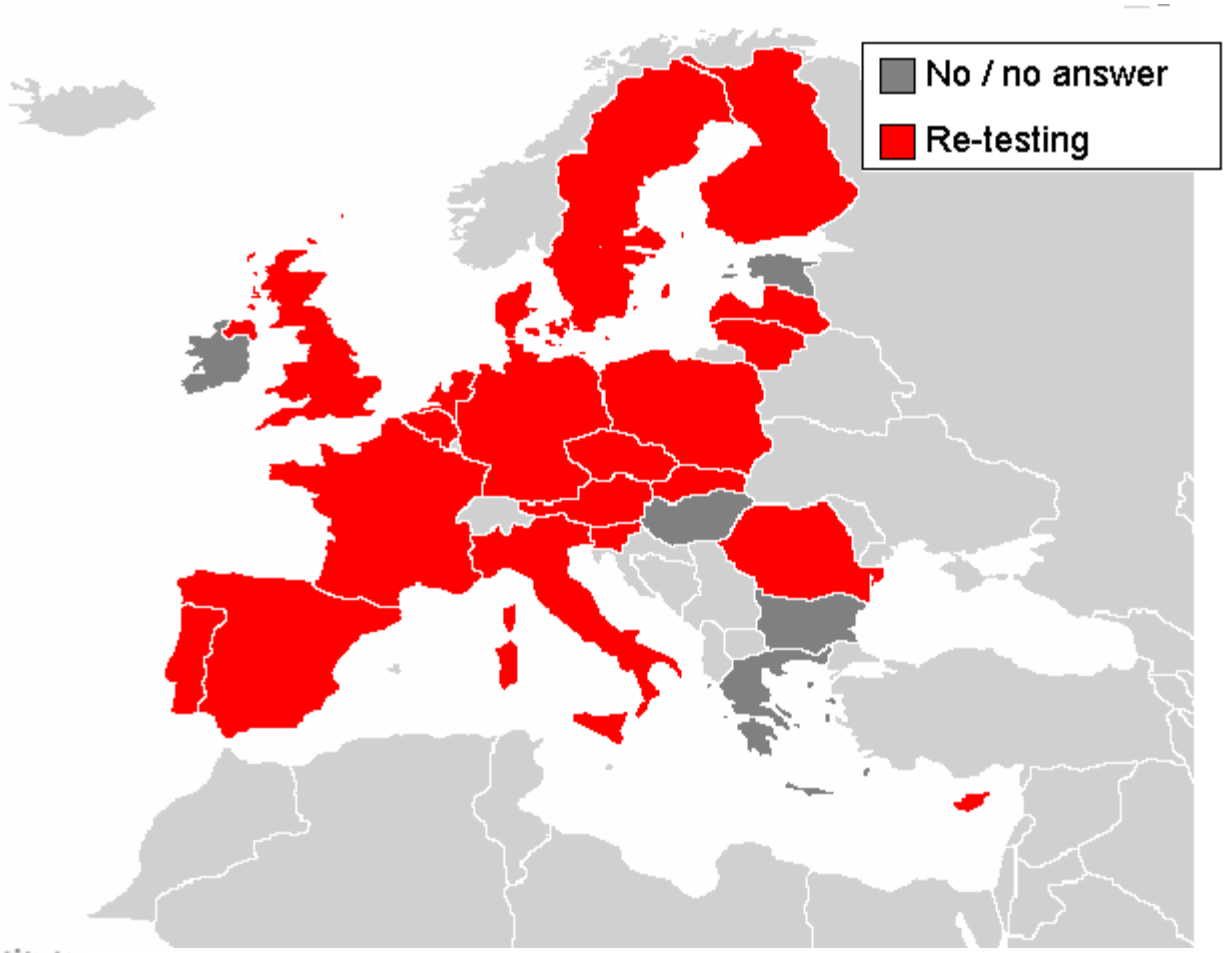
Number classes of antimicrobials that bacteria should be resistant to to be regarded as multiple resistant



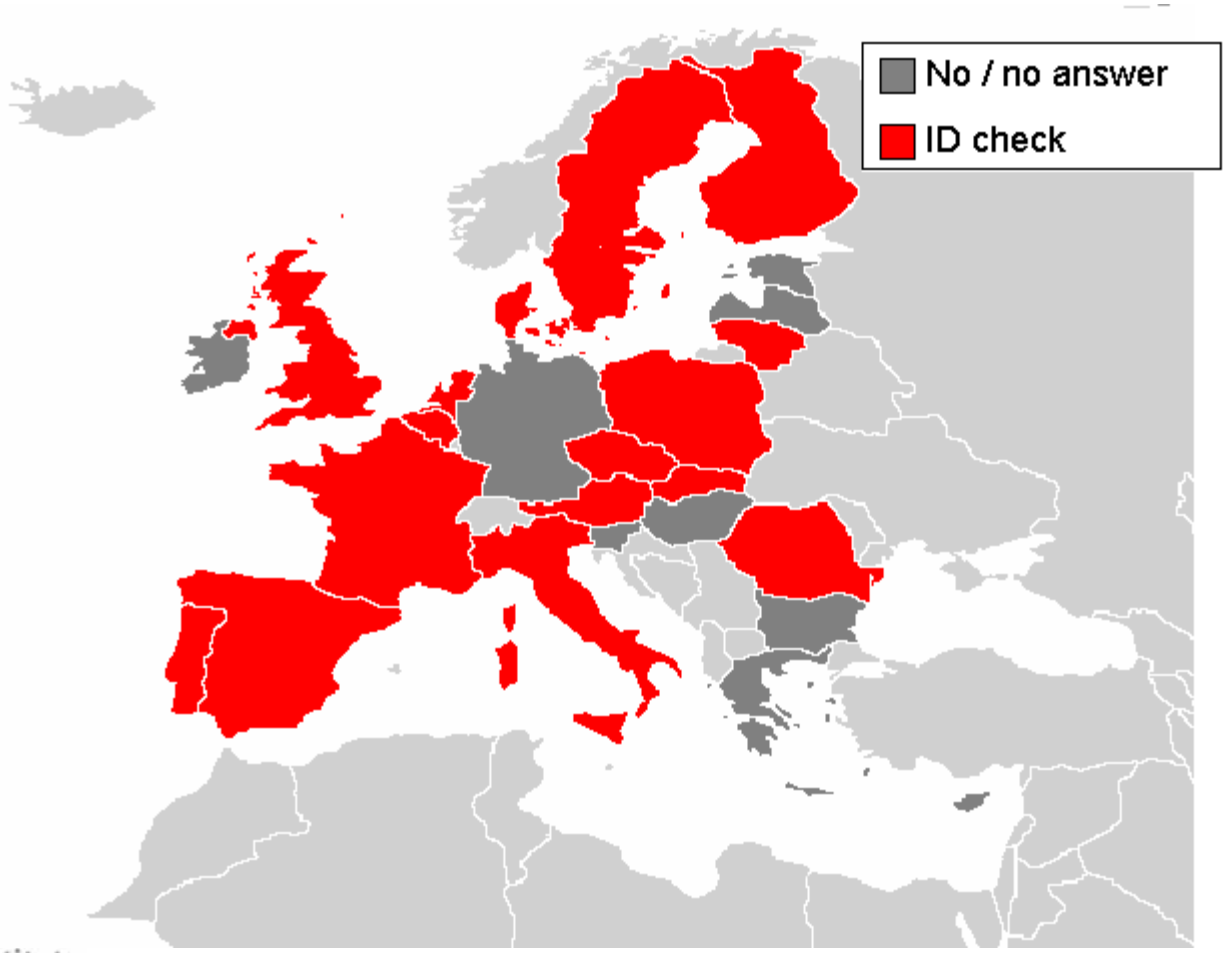
Strain collection



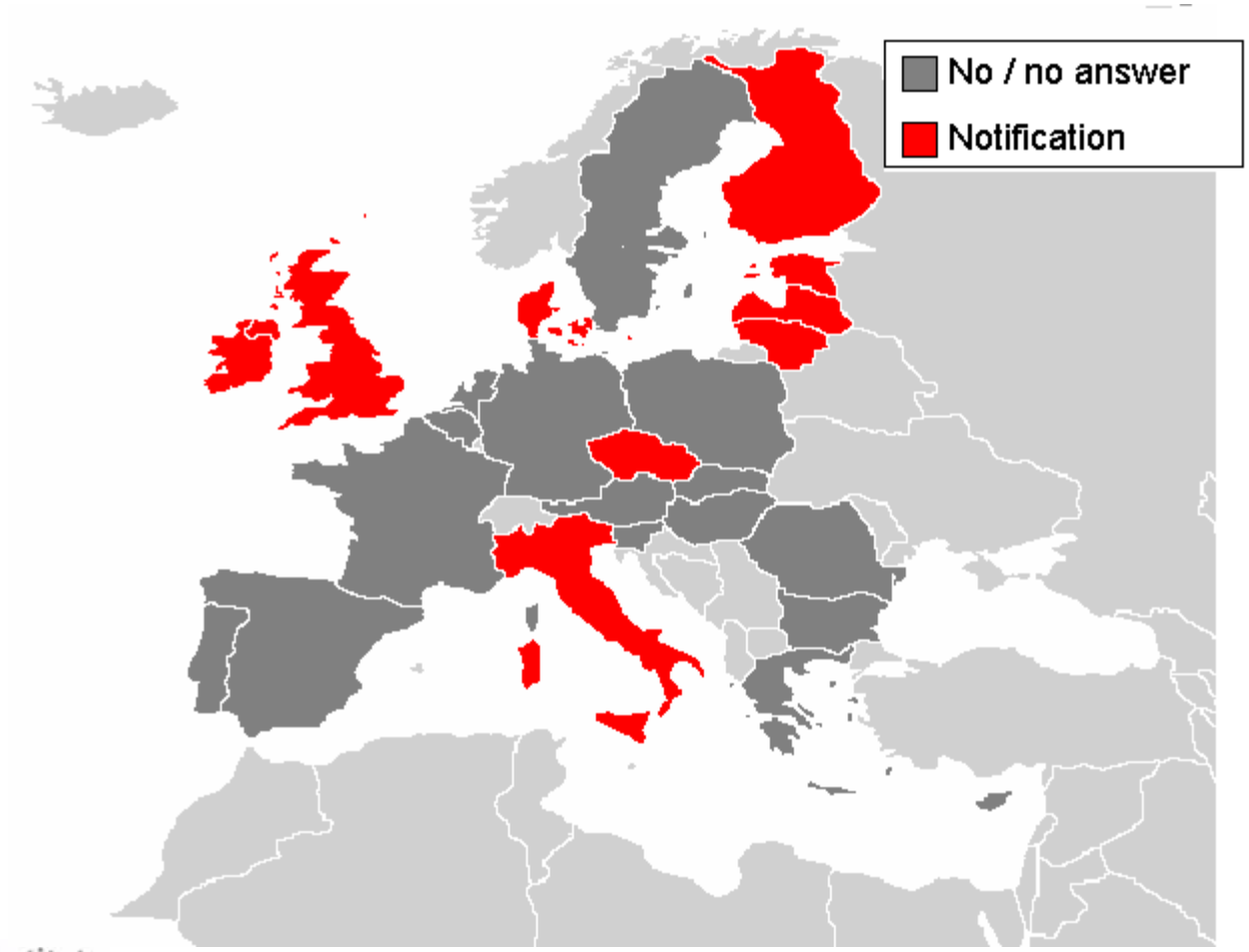
Initiatives when observing an unusual resistance profile - 1



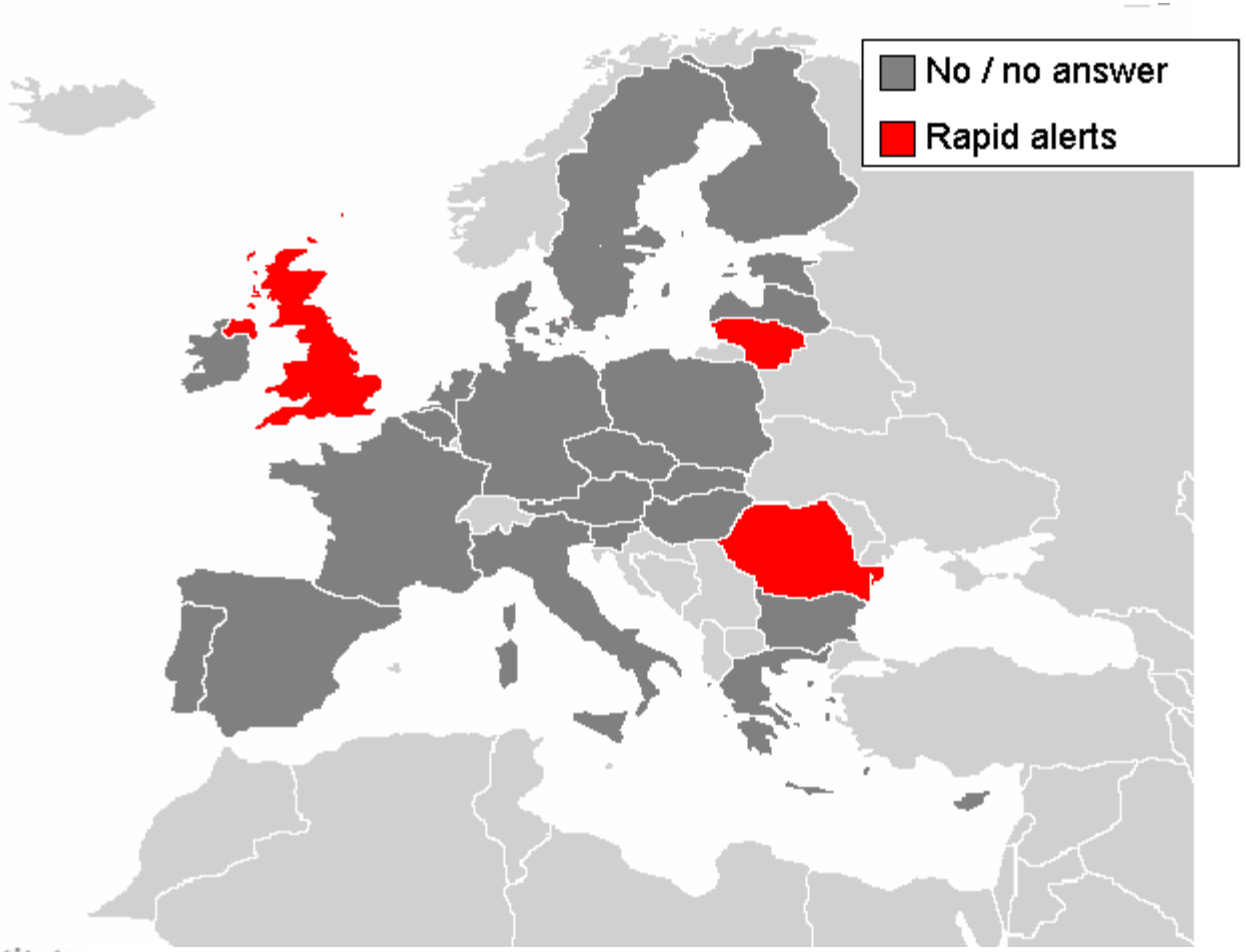
Initiatives when observing an unusual resistance profile - 2



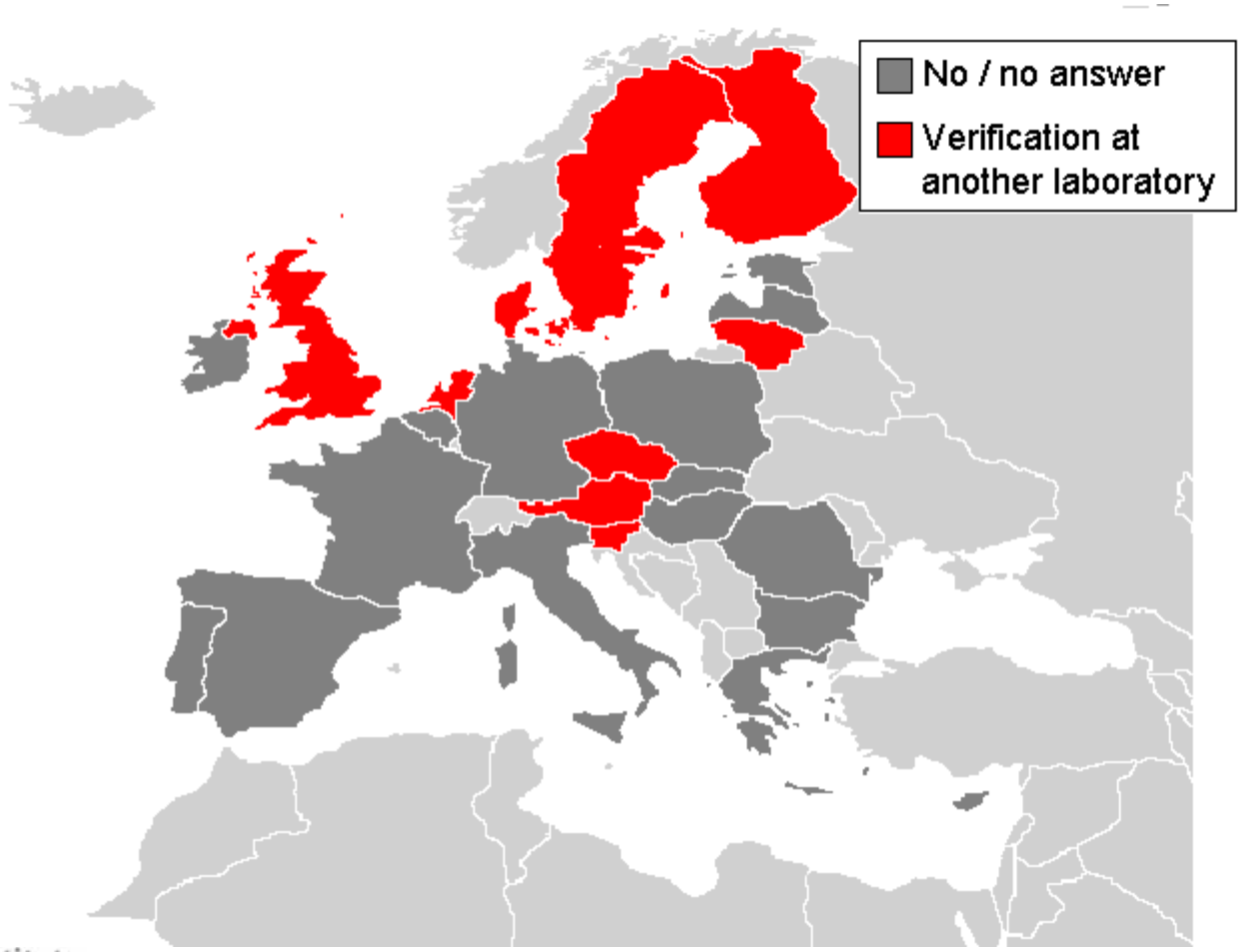
Initiatives when observing an unusual resistance profile - 3



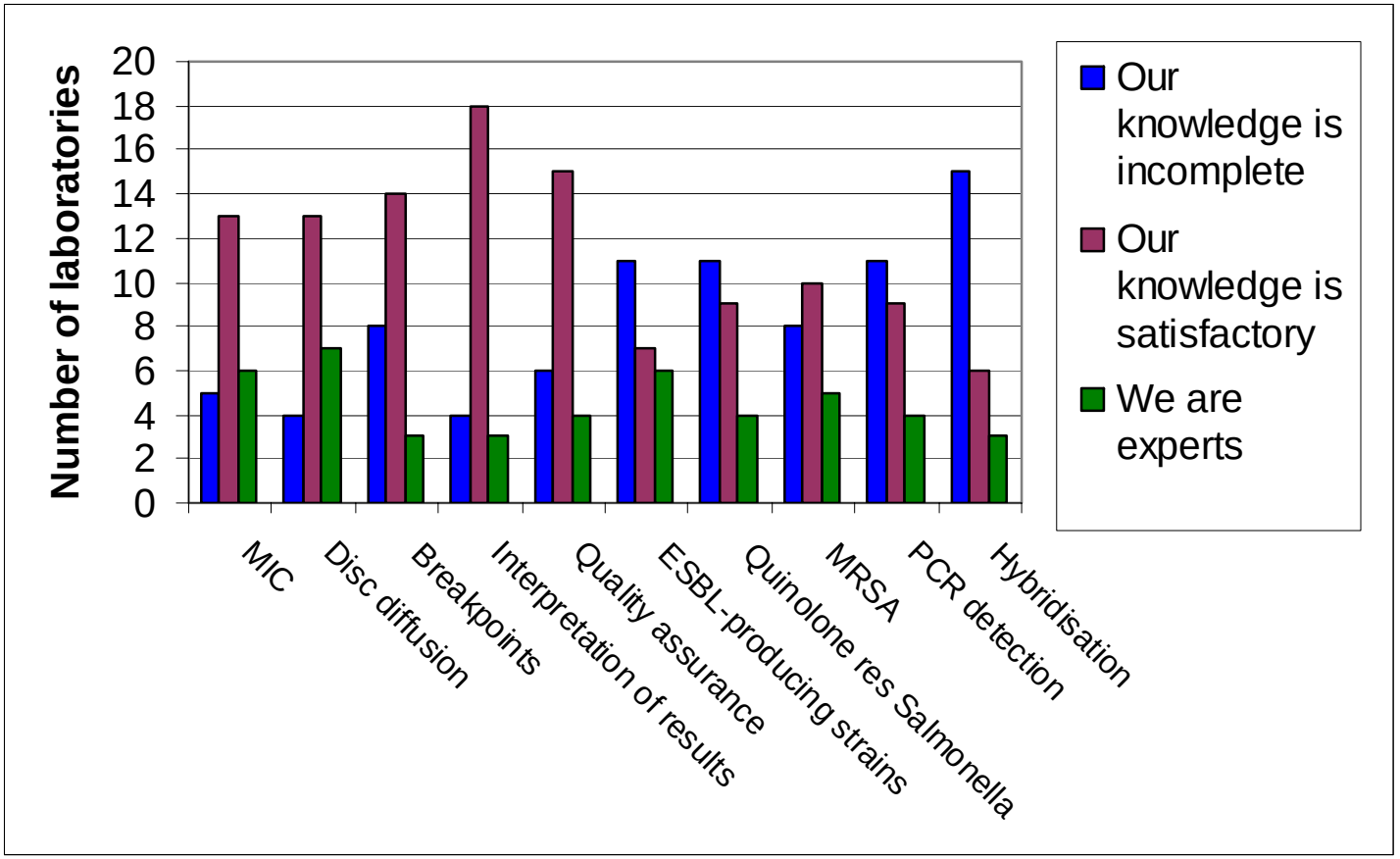
Initiatives when observing an unusual resistance profile - 4



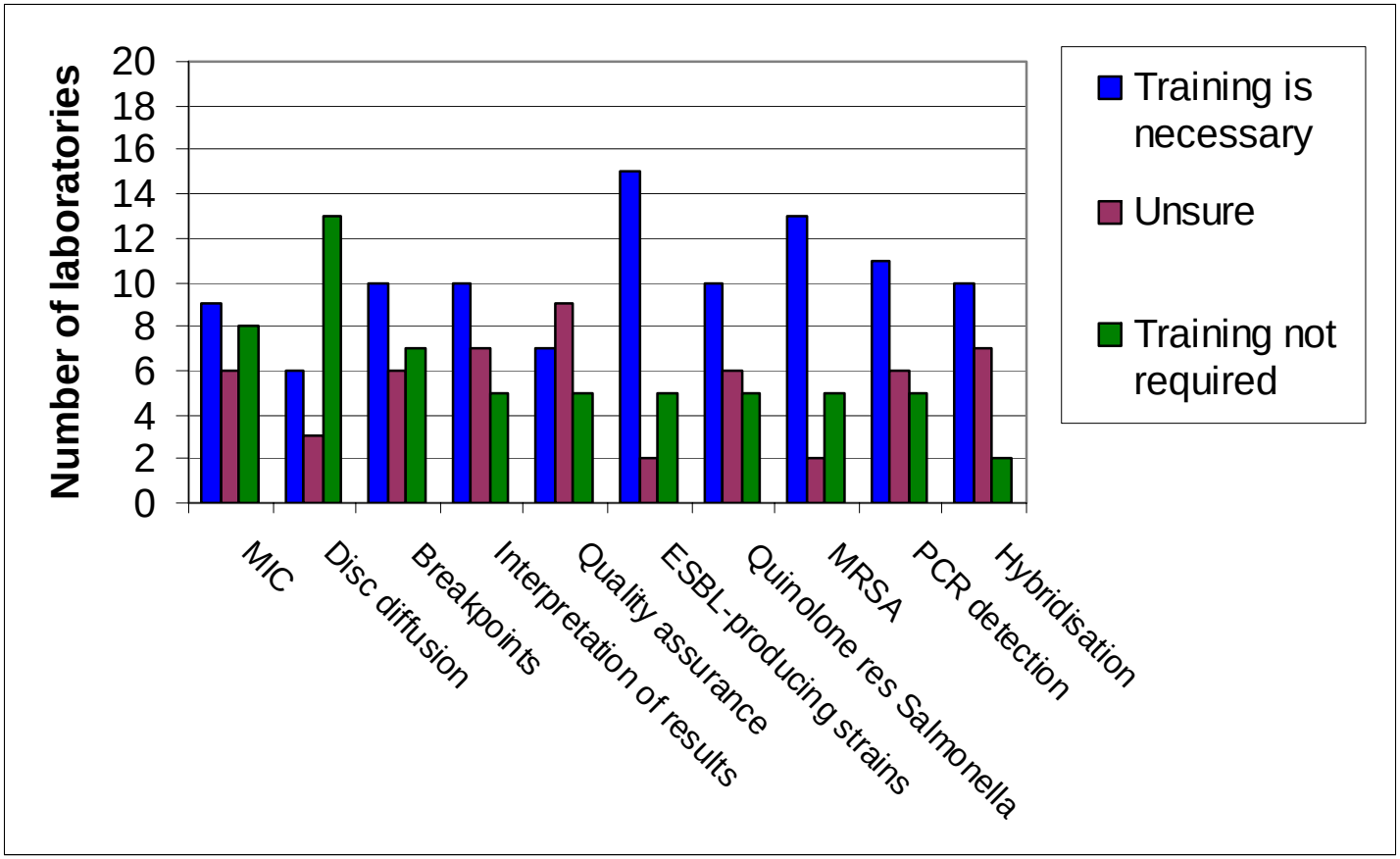
Initiatives when observing an unusual resistance profile - 5



Knowledge on AST-subjects

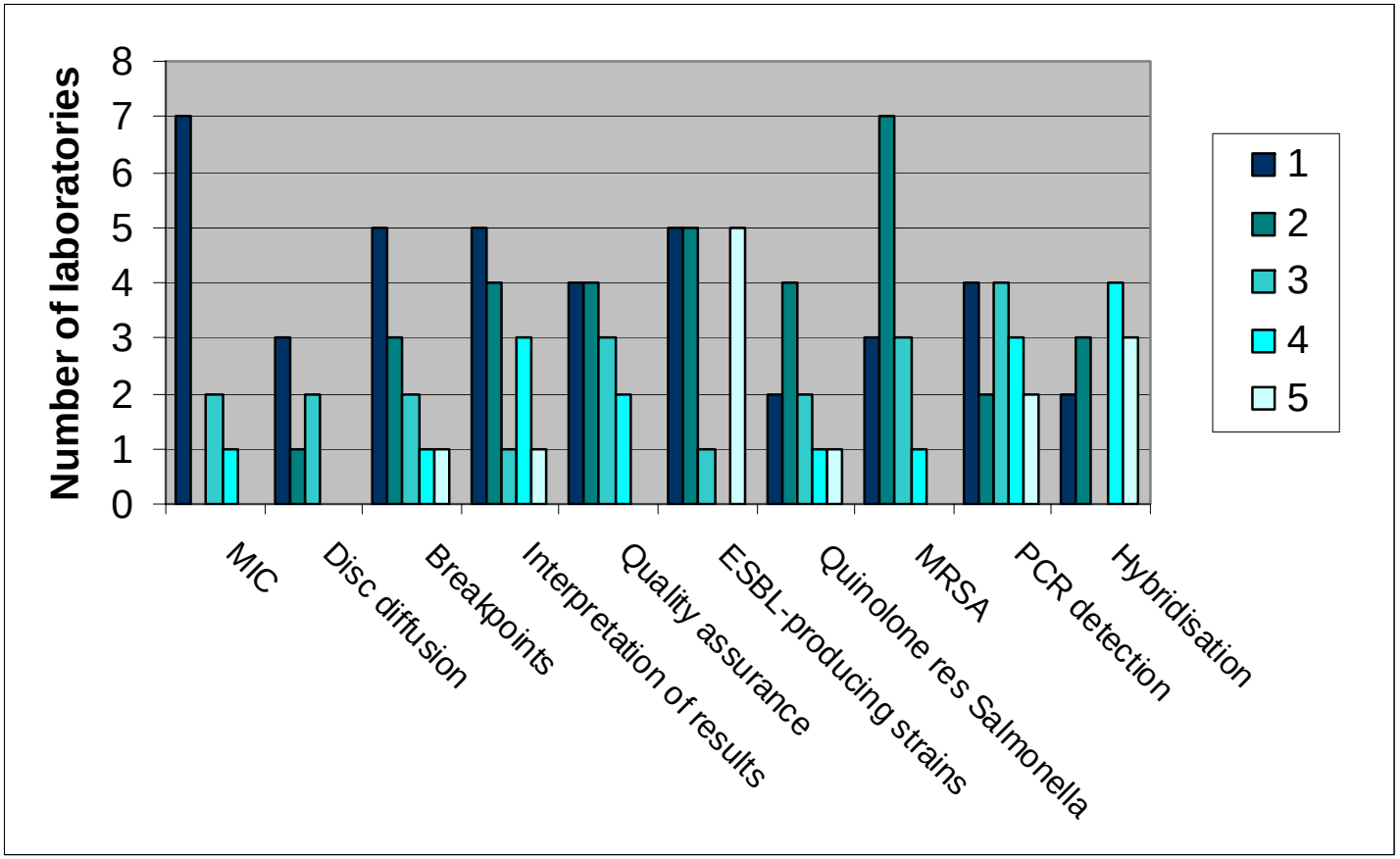


Needs for training, protocols or methodologies



Topics – top 5
(Training, methodologies and protocols)

'1' regarded as most important and '5' as least important



Comments