Eurachem
A Focus for Analytical Chemistry in Europe

Workshop questions

- Who needs uncertainty?
  - Do you report MU? Why? If YES how do you state it?
- How should uncertainty in food analysis be determined?
  - Top-down or bottom-up? Global or step-by-step
- What are **your** problems in evaluating uncertainty?
  - Can you find sufficient guidance? If not, what additional guidance is needed?
- What do you do when you find a bias in validating the test method?
  - Report it, ignore it, include it in the MU …

Eurachem
A Focus for Analytical Chemistry in Europe

Used an online form for feedback

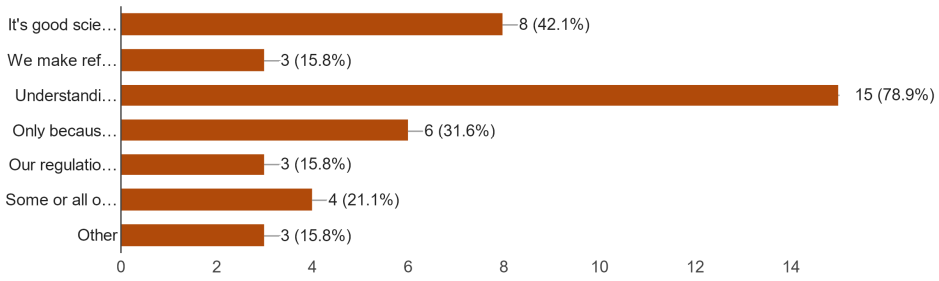
http://bit.ly/Eurachem2017_FoodEnvMU

(still open …)

Eurachem
A Focus for Analytical Chemistry in Europe

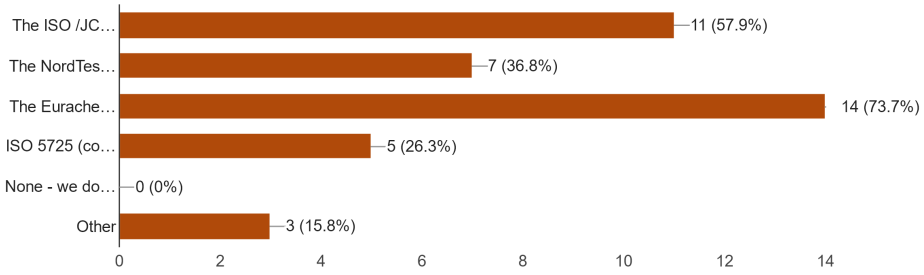
Who needs uncertainty?

- Do you report MU?
- Why?



Eurachem
A Focus for Analytical Chemistry in Europe

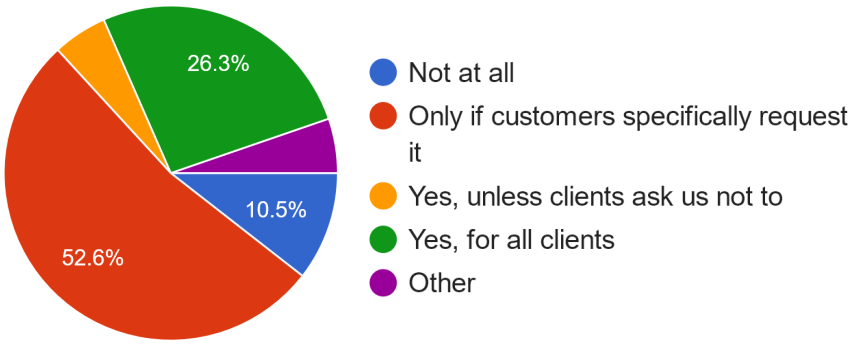
Which guides are used?



- Plus:
  - NMKL 5 and 7
  - Eurolab TRs on uncertainty, esp. 2007

Eurachem
A Focus for Analytical Chemistry in Europe

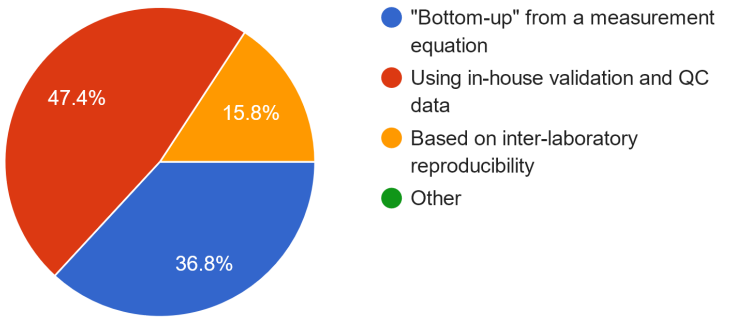
When do you REPORT uncertainty?



Eurachem
A Focus for Analytical Chemistry in Europe

How should uncertainty in food analysis be determined?

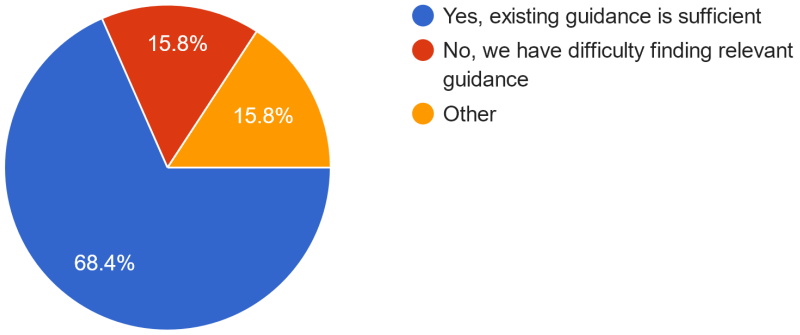
- Top-down or bottom-up? Global or step-by-step?



Eurachem
A Focus for Analytical Chemistry in Europe

What are your problems in evaluating uncertainty?

- Can you find sufficient guidance?
- If not, what additional guidance is needed?



Eurachem
A Focus for Analytical Chemistry in Europe

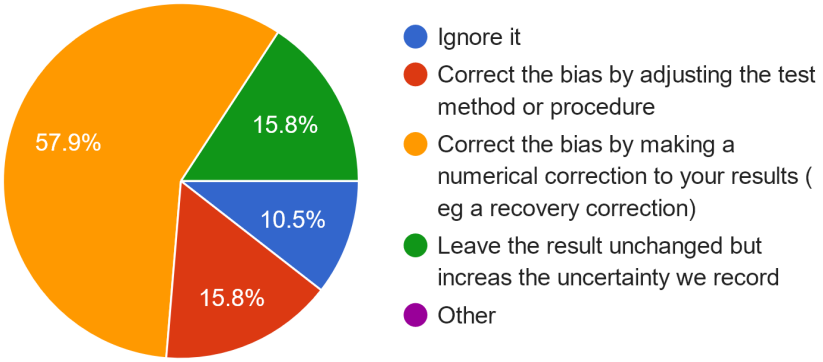
What additional guidance is needed?

- Top-down evaluation of the MU based on in-house validation
- Very specific schemes for concrate methods of analysis
- uncertainty criteria (vs "fit or purpose")
- Qualitative analysis, R software

Eurachem
A Focus for Analytical Chemistry in Europe

What do you do when you find a bias?

- Report it, ignore it, include it in the MU …



Eurachem
A Focus for Analytical Chemistry in Europe

Problems to solve

- Uncertainty and bias correction
- Qulitative analysis
- Handling 'black box' technologies
- MU at very low concentrations, close to LOD
- Establishment Of Mathematical model
- The evaluation of random uncertainty (TypeA) in the case of a "white noise regime

Eurachem
A Focus for Analytical Chemistry in Europe

… more problems …

- Multicomponent methods
  - Aflatoxin/total aflatoxins
- Hand held devices (black box, but possibly uninformed user)
  - Test kit certification may be relevant
- Geographical databases
  - For origin, identity

Eurachem
A Focus for Analytical Chemistry in Europe

Other remarks

- Useful to have tutorials and software available for MU evaluation?
- HRMS based screening methods should be included in the future guides
- More trainings for MU are needed for Georgian labs
- It is important to have workshops addressing uncertainty evaluation for field labs, particularly related to food analysis
- Without agreed standards in nanometrology area is not possible for laboratories to compare data. Nanoparticle characterization for siE, size sistribution and shape is also lacking formal methods.