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CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING
42nd Session
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European Union Comments on

Agenda Item 5:

Information Document: Guidelines on Measurement Uncertainty (CXG 54-2004)

(CX/MAS 23/42/7 and CL 2023/14/OCS-MAS)

Mixed Competence
Member States Vote

The European Union and its Member States (EUMS) congratulate Germany for doing an excellent job that provides the technical background necessary for the estimation of measurement uncertainty and the examples for illustrating different use cases; it will certainly support the guidance provided by CXG 54. The content of the information document explains in a comprehensive manner relevant approaches to estimate measurement uncertainty (top-down and bottom-up), the models and assumptions governing those approaches and provides practical examples how to evaluate uncertainty components. Even if a note regarding sub-sampling has been added to the current version of the information document, it could still profit from a stronger focus on test methods validated by collaborative study as methods endorsed by CCMAS and included in CXS 234-1999 have to be validated by multi-lab studies. Method performance data resulting from collaborative studies do in a number of cases not include certain uncertainty sources. It would be an advantage if the document described how to identify additional influential factors on the measurement result, e.g., preparation steps related to transforming a laboratory sample into the test portion, sub-sampling from the laboratory sample, matrix variation, etc., that were not adequately covered in the collaborative study (reconciliation of potential uncertainty sources with the available collaborative study results) and quantify the uncertainty component arising from them. Lastly, it should briefly describe when and how to combine those additional standard uncertainties with the performance parameters (sr and sR) of the collaboratively trialed method.

As some endorsed methods do not have the concerned commodity in their scope (e.g., AOAC 968.31, which has been validated for canned tomatoes, lima beans, and potatoes, but which also endorsed for Ca in canned strawberry), guidance and an example should be provided how to assess uncertainty due to the matrix mismatch.

A paragraph on the role of certified reference materials for estimating measurement uncertainty, particularly the uncertainty of bias correction, would strengthen the information document as well.