CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 8 **CX/PR 15/47/10-Add.1**
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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON PESTICIDE RESIDUES

47th Session

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COMMENTS on PROPOSED DRAFT GUIDANCE ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDE RESIDUES at Steps 3,

submitted by Canada, Chile, Colombia, Costa Rica, El Salvador, European Union, Japan, Peru and African Union

Canada

1) Page 3 Point 5. Provide full name for MRL such as Maximum residue limit (MRL).

2) Page 7 Point 29. Provide a commonly accepted reference for Ruggedness test by adding “Ruggedness can be evaluated using the approach of Youden” at the end of the paragraph.

Reference: W.J. Youden; Steiner, E.H.; ‘Statistical Manual of the AOAC–Association of Official Analytical Chemists’, 1975, p. 33 ff.

3) Page 10 point 45. Add (unit mass resolution) after chromatography-MS/MS for clarification.

Chile

I. General comments

Chile supports the progress in the work related to the proposed draft Guidance on Performance Criteria for Methods of Analysis for the Determination of Pesticide Residues.

In relation to the content of the guidance, it is important that the definitions of the terms are in line with other Codex guidelines established by the Codex Committee on Methods of Analysis and Sampling (CCMAS), such as CAC/GL 72-2009 and CAC/GL 54-2004.

Similarly, it would be important to include in the proposed draft a summary table of the criteria, as the SANCO guide has, in order to be clear what the required criteria are for each validation parameter. This table could include the following parameters: Linearity, Matrix Effect, Limit of Quantification, Specificity, Trueness, Precision (RSDr), Precision (RSDR) and Ruggedness, defining for each of them, “what/how” and the “criterion”. For example, for the LOQ, “what/how” would correspond to the lowest level at which it can be shown that the trueness and precision are adequate and the “Criterion” ≤MRL.

It should be considered that the CCMAS and other Committees are working in the field of criteria for multi-analyte validation.

II. Specific Comments

PURPOSE

Comment 1. In paragraph 1 it is suggested adding “feeds”:

1. The purpose of this guidance document is to describe the performance criteria of methods to analyze pesticide residues in foods and **feeds**. It addresses the characteristics/parameters to provide scientifically acceptable confidence in the analytical methods to produce accurate/precise results and to reliably evaluate pesticide residues for either domestic monitoring and/or international trade.

Justification: The scope of this guidance would allow it to be used for food and feed, as has been the line in this and other Codex Committees.

SCOPE

Comment 2. It is proposed including the term "multi-class methods":

2. This document is applicable to single, **multi-class** and multiresidue methods (MRMs) to analyze target compounds in food commodities, including parent pesticide residues and/or their metabolites and degradates in food commodities, as per the residue definition.

Justification: It is a frequently used terminology.

Comment 3. It is suggested including "diagnostic and survey"

2. In this document, a MRM is defined as a method which can determine three or more analytes in the same chemical class or in more than one class of pesticide. This guidance covers qualitative (**diagnostic**, screening, **survey**, identification, confirmation) and quantitative analyses, each having their own specific method performance requirements. For qualitative purposes, method validation involves analysis of ≥20 each of diverse matrix blanks and matrix spikes at the reporting level to minimally assess rates of false positives and negatives.

Justification: To be consistent with the above definitions.

PRINCIPLES FOR THE SELECTION AND VALIDATION OF METHODS

Identification of Methods Requirements

Comment 4. It is suggested inserting an introduction before the heading Identification of methods requirement:

PRINCIPLES FOR THE SELECTION AND VALIDATION OF METHODS

To select and validate an analytical method, the requirements it must meet should be established, considering the following aspects:

Identification of methods requirements

Justification: Optimizes the comprehension of this section.

Comment 5. It is suggested a new wording for paragraph 4:

~~4. The intended purpose of the method is usually defined in a statement of scope which defines the analytes (residues), the matrices, and the concentration range. It also states whether the method is intended for screening, quantification, identification, and/or confirmation of analytes.~~

4. The purpose of the method is defined through the analytes, matrices and concentration range for which it satisfactorily applies, together with indicating if it is for screening purposes, quantification, identification and/or confirmation of analytes.

Justification: This modification is considered to be necessary for a better comprehension of the paragraph.

Comment 6. It is suggested a new wording for paragraph 5:

~~5. The MRL is expressed in terms of the "residue definition", which may include the parent compound, a major metabolite, a sum of parent and/or metabolites, or a reaction product formed from the residues during analysis. Ideally, residue analytical methods should be able to measure all components of the residue definition.~~

5. To know the MRL of the analyte of interest.

Note: The MRL is expressed in terms of the "residue definition", which may include the parent compound, a major metabolite, a sum of parent and/or metabolites, or a reaction product formed from the residues during analysis. Ideally, residue analytical methods should be able to measure all components of the residue definition.

Justification: What matters is that the criterion to validate a method is to know the MRL. The rest of the paragraph is a clarification of what is meant by MRL for a validation, therefore, it is proposed to leave it as a note.

Implementing other Codex Alimentarius Commission Guidelines

Comment 7. It is suggested a new wording for paragraph 7:

~~7. The Codex Alimentarius Commission (CAC) has issued a guideline for laboratories involved in the import/export testing of foods which recommends that such laboratories should:~~

~~a. use internal quality control procedures, such as those described in the "Harmonized Guidelines for Internal Quality Control in Analytical Chemistry Laboratories";~~

~~b. participate in appropriate proficiency testing schemes for food analysis which confirm to the requirement laid out in "The International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories";~~

~~c. comply with the general criteria for testing laboratories provided in ISO/IEC Guide 17025:2005 "General Requirements for the Competence of Calibration and Testing Laboratories"; and~~

~~d. whenever available, use methods which have been validated according to principles provided by the CAC.~~

7. Within the laboratory validation methods; these should be developed to provide evidence that a method serves the purpose for which it is to be used. To that end other Codex guidelines should be considered:

a. "Harmonized Guidelines for Internal Quality Control in Analytical Chemistry Laboratories";

b. "The International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories";

c. "General Requirements for the Competence of Calibration and Testing Laboratories"

Justification: The proposal aims to simplify and improve its comprehension.

Comment 8. It is suggested including the following paragraphs after paragraph 7:

8. Determine which are the representative matrices and in the validation use a representative matrix of that category (for instance: category Berries, validated matrix small fruit, raspberry could be used for such analysis). When the method is applied routinely for a large variety of matrices, additional validations can be performed with data obtained during routine work (as mean recovery %, calibrations).

9. Required sensitivity of the method.

10. If the analytical method meets all validation criteria represented in analytical quality controls it will allow extrapolation of the validation to all analytes present in the study matrix.

Justification: In the validation process the range in relation to the content of the paragraph would facilitate the choice of matrices based on its variability of composition, referring to groups of matrices according to the amount of water content, fat and carbohydrates.

Comment 9. It is proposed deleting paragraph 8:

~~8. The methods should be used within the internationally accepted, approved, and recognized laboratory Quality Management System, following a guide such as ISO/IEC Guide 17025, to be consistent with the principles in the document for quality assurance (QA) and quality control (QC) referenced above. The on-going performance must be monitored through the Quality Management System in place in the laboratory.~~

Justification: The purpose of the guidance is not to define the framework within which methods will be used.

Method Validation

Comment 10. It is suggested deleting the current paragraph 9 and insert the following paragraphs after paragraph 10 suggested in Comment 8:

~~9. The process of method validation is intended to demonstrate that a method is fit-for-purpose. This means that when a test is performed by a properly trained analyst using the specified equipment and materials and following the procedures described in the method, accurate and consistent results can be obtained within specified statistical limits for sample analysis. The validation should specify the analyte (identity and concentration), account for the matrix effects, provide a statistical characterization of the recovery results, and indicate if the rates of false positives and negatives are minimally acceptable. When the method protocol is followed using suitable analytical standards, results within the established performance limits should be obtained on the same or equivalent sample material by a trained analyst in any experienced residue testing laboratory.~~

11. The process of method validation is intended to demonstrate that a method is fit-for-purpose. This means that when a test is performed by a properly trained analyst using the specified equipment and materials and following the procedures described in the method, accurate and consistent results can be obtained within specified statistical limits for sample analysis.

12. The analytical method should be demonstrated in the validation, from the ability to provide recovery values in that level of fortification for that representative product with a range of 70-120% with an RSD of repeatability ≤ 20% for all components that are being sought. There are certain cases where using multi-residue methods the obtained recoveries could be outside the expected range, which could be acceptable. Exceptionally, for analytes with low recoveries ≤ 70% but consistently demonstrating good accuracy, with a well-established base (for instance: Pesticide distribution in two heterogeneous phases) it could be accepted, taking into account a laboratory reproducibility ≤ 20%.

13. Screening methods are usually either qualitative or semi-quantitative in nature, with the objective being to discriminate samples which do not contain detectable residues above a limit value ("negatives") from those which may contain residues above that value ("potentially positives"). The validation strategy therefore focuses on establishing a threshold concentration above which results are "potentially positive", determining a statistically based rate for both "false positive" and "false negative" results, testing for interferences and establishing appropriate conditions of use. Screening methods should be checked for their selectivity and sensitivity. They can be based on test kits and their selectivity may be increased when a detection system is used after chromatographic or other separation techniques. Another approach is to use screening methods that involve automated mass spectrometry-based detection systems, which are very selective. These methods offer laboratories a cost-effective means to extend their analytical scope to analytes which potentially have a low probability of being present in the samples. Analytes that occur more frequently should continue to be sought and measured using validated quantitative MRMs.

14. The validation of a screening method based on a limit of detection (LOD) can be focused on detectability. For each commodity group, a basic validation should involve analysis of at least 20 samples spiked at the estimated LOD. Selected samples should represent multiple product categories from the product group, with a minimum of two different samples for each product category and should be representative of the desired field of application of the laboratory. Additional validation data can be collected from on-going QC-data and method performance verification during routine analysis. The LOD of the qualitative screening method is the lowest level at which an analyte has been detected (not necessarily meeting the MS-identification criteria) in at least 95% of the samples (e.g. an acceptable false-negative rate of 5%).

Justification: To improve the content of the Guidance.

SUMMARY OF PERFORMANCE PARAMETERS TO BE CHARACTERISED AND DEFINED FOR ANALYTICAL METHODS

Comment 11. It is suggested changing the title of this section:

~~**SUMMARY OF PERFORMANCE PARAMETERS TO BE CHARACTERISED AND DEFINED FOR ANALYTICAL METHODS**~~

PERFORMANCE PARAMETERS FOR ANALYTICAL METHODS

Justification: It expresses better the content of this part of the Guidance.

C. CALIBRATION AND LINEARITY

Comment 12. It is suggested to change the current paragraphs 13 and 14:

~~13. With the exception of gross errors in preparation of calibration materials, calibration errors are usually (but not always) a minor component of the total uncertainty, and can be safely assigned into other categories. For example, random errors resulting from calibration are part of the run bias that is assessed as a whole, while systematic errors from that source may appear as laboratory bias, likewise assessed as a whole. Nevertheless, there are some characteristics of calibration that are useful to know at the outset of method validation, because they affect the strategy for the optimal development of the procedure. In this class are such questions as whether the calibration function plausibly (a) is linear, (b) passes through the origin, and (c) is unaffected by the matrix of the test material. The procedures described here relate to calibration studies in validation, which are necessarily more involved than calibration undertaken during routine analysis~~

~~14. In general, the use of weighted-linear regression or weighted quadratic function is recommended rather than simply linear regression for the low part per billion (µg/kg) concentration level determination~~.

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14. In general, the use of weighted-linear regression or weighted quadratic function is recommended rather than simply linear regression for the low part per billion (µg/kg) concentration level determination.

Justification: What is proposed for elimination does not add to the clarity of the document, rather it could be misleading.

E. TEST FOR GENERAL MATRIX EFFECT

Comment 13. It is proposed deleting this substitle:

~~**E. TEST FOR GENERAL MATRIX EFFECT**~~

Justification: Because its content is part of the subtitle D. LINEARITY AND INTERCEPT.

TRUENESS AND RECOVERY

Comment 14. It is suggested replacing the title of current paragraph F:

~~**F. TRUENESS AND RECOVERY**~~

TRUENESS

Justification: Recovery is a way of determining trueness and therefore should not be stated in the title.

Comment 15. It is suggested replacing the current paragraphs 19 and 20:

~~19. Trueness is the closeness of agreement between a test result and the accepted reference value of the property being measured. Trueness is stated quantitatively in terms of "bias", with smaller bias indicating greater trueness. Bias is typically determined by comparing the response of the method to a reference material with a known value assigned to the material. Significance testing is recommended. Where the uncertainty in the reference value is not negligible, evaluation of the results should consider the reference material uncertainty as well as the statistical variability.~~

~~20. Recovery refers to the proportion of analyte remaining at the point of the final determination, following its addition (usually to a blank sample) immediately prior to extraction, generally expressed as a percentage. Routine recovery refers to the determination(s) performed with the analysis of each batch of samples.~~

19. Trueness is the closeness of agreement between a test result and the accepted reference value of the property being measured. Trueness is stated quantitatively in terms of "bias", with smaller bias indicating greater trueness. Bias is typically determined by comparing the response of the method to a reference material with a known value assigned to the material. Significance testing is recommended. Where the uncertainty in the reference value is not negligible, evaluation of the results should consider the reference material uncertainty as well as the statistical variability.

20. Recovery refers to the proportion of analyte remaining at the point of the final determination, following its addition (usually to a blank sample) immediately prior to extraction, generally expressed as a percentage. Routine recovery refers to the determination(s) performed with the analysis of each batch of samples

Justification: Paragraph 19 is simplified because the term "Trueness" is already in the definitions. Considering that the concept of "Recovery" is in paragraph 20, it is proposed inserting its definition in Appendix I according to the Guideline CAC/GL 72-2009.

I. LIMIT OF QUANTIFICATION (LOQ)

Comment 16. It is proposed to delete the current paragraphs 26 and 27:

~~26. The common accepted definition of LOQ is the concentration at which signal/noise ratio is 10. This reflects 95% confidence (19 out of 20 times) that an analyte at that concentration will be determined. The LOQ is typically only an estimate because determination of the precise LOQ takes many analyses of spiked samples and matrix blanks to accurately determine signal/noise, which is typically a fruitless exercise because the LOQ changes from day-to-day depending on the state of the instrument. Some validation guidelines require that the LOQ be verified to meet method performance criteria via spiking experiments at the LOQ, but a better term for use of this concept is lowest validated level (LVL). Furthermore, quantification of analytes should not be made below the lowest calibrated level (LCL) in the same analytical sequence. The Signal to noise (S/N) ratio at the LCL must be ≥10 (conc. ≥ LOQ), which can be set as a system suitability check required for each analytical sequence. A quality control matrix spike can also be included in each sequence to verify that the reporting limit is achieved in the analysis (an action level is typically greater than the LCL). In essence, the point of the validation is not to determine the LOQ, but to demonstrate that the lowest reported concentration meeting the need for the analysis will be equal to or greater than the LOQ.~~

~~27. It is preferable to try to express the uncertainty of measurement as a function of concentration and compare that function with a criterion of fitness for purpose agreed between the laboratory and the client or end-user of the data.~~

And replace them with:

26. The LOQ is typically only an estimate because determination of the precise LOQ takes many analyses of spiked samples and matrix blanks to accurately determine signal/noise, which is typically a fruitless exercise because the LOQ changes from day-to-day depending on the state of the instrument. Some validation guidelines require that the LOQ be verified to meet method performance criteria via spiking experiments at the LOQ, but a better term for use of this concept is lowest validated level (LVL). Furthermore, quantification of analytes should not be made below the lowest calibrated level (LCL) in the same analytical sequence. The Signal to noise (S/N) ratio at the LCL must be ≥10 (conc. ≥ LOQ), which can be set as a system suitability check required for each analytical sequence. A quality control matrix spike can also be included in each sequence to verify that the reporting limit is achieved in the analysis (an action level is typically greater than the LCL). In essence, the point of the validation is not to determine the LOQ, but to demonstrate that the lowest reported concentration meeting the need for the analysis will be equal to or greater than the LOQ.

27. It is preferable to try to express the uncertainty of measurement as a function of concentration and compare that function with a criterion of fitness for purpose agreed between the laboratory and the client or end-user of the data.

Justification: It improves the wording and also in paragraph 26 the definition of LOQ should be deleted.

Comment 17. It is suggested deleting the existing paragraph L and move it under current paragraph M:

~~**L. FITNESS FOR PURPOSE**~~

M. MEASUREMENT UNCERTAINTY

Fitness for purpose

31. Fitness-for-purpose is the extent to which the performance of a method describes the end-user's needs, and matches the criteria agreed between the analyst and the end-user of the data. For instance, the errors in data should not be of a magnitude that would give rise to incorrect decisions more often than a defined small probability, but they should not be so small that the end-user is involved in unnecessary expenditure. Fitness-for-purpose criteria could be based on some of the characteristics described here, but ultimately will be expressed in terms of acceptable combined uncertainty.

Justification: This title should go after uncertainty as a separate item because it is not a parameter but the conclusion of whether the method is suitable or not for the intended purpose.

PERFORMANCE CHARACTERISTICS OF SCREENING METHODS

Comment 18. It is proposed changing the title of the section and adding a following paragraph:

~~**PERFORMANCE CHARACTERISTICS OF SCREENING METHODS**~~

PERFORMANCE CHARACTERISTICS OF METHODS

The following performance characteristics of the method should be considered for:

Comment 19. It is proposed adding before the existing paragraph 33, the following title:

A) Screening methods

Comment 20. It is proposed changing the title of the paragraph before current paragraph 36:

~~**PERFORMANCE CHARACTERISTICS OF QUANTITATIVE METHODS**~~

B) Quantitative methods

Comment 21. It is proposed changing the title of the paragraph before current paragraph 36:

~~**PERFORMANCE CHARACTERISTICS OF METHODS FOR ANALYTE IDENTIFICATION AND CONFIRMATION**~~

(C) Methods for analyte identification and confirmation

Justification comments 18, 19, 20 and 21. Provide more clarity to the content of the Guidance.

Table 2: Recommended maximum (default) tolerances for ion ratios using different MS techniques

Comment 22. It is suggested changing the title of the first column:

Ion ratio (least/most intense ion) **Ion ratio (less/more intense ion)**	**Maximum tolerance (relative) for GC-EI-MS**	**Maximum tolerance (relative) for LC-MSn, LC-MS, GC-MSn, GC-CI-MS**
0.5-1.0	±10%	±30%
0.2-0.5	±15%	±30%
0.1-0.2	±20%	±30%
<0.10	±50%	±30%

Justification: the term ‘Ratio’ had not been translated into Spanish.

APPENDIX I

DEFINITIONS

Comment 23. It is suggested inserting the definition of single method and multi-class method:

Single method: method which allows measuring a compound or residue.

Multi-class method: method which allows simultaneous measuring more than 2 residue groups (or families).

Justification: Considering that the guidance mentions these concepts in the “scope”, it is highly important to insert them because they are not in other texts.

Comment 24. It is suggested inserting the definition of applicability:

Applicability: The analytes, matrixes and concentrations for which an analytical method can be used successfully. (Codex Alimentarius Comission, Procedure Manual, 17th Edition). See guideline CAC/GL 72-2009.

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 25. It is suggested inserting the definition of precision:

> **Precision: The closeness of agreement between independent test results or independent measurements obtained under prescribed conditions. See Guideline CAC/GL 72-2009.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 26. It is suggested inserting the definition of pesticide residue:

> **Pesticide residue: Any specified substance in food, agricultural commodities, or animal feed resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance. (Procedural Manual, Codex Alimentarius Commission, 21 th).**

Justification: Considering that these guidelines are specific for pesticide residues, it is relevant to repeat the existing definition in the Procedure Manual.

Comment 27. It is suggested inserting the definition of fortified residue used in the SANCO/10684/2009 Guide:

> **Fortified: Addition of analyte for purposes of determination of recovery or standard addition.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 28. It is suggested inserting the definition of recovery:

> **Recovery: Proportion of the amount of analyte, present in the analytical portion of the test material, added to or present in the analytical portion of the test material and added to it, which is presented for measurement. See Guideline CAC/GL 72-2009.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 29. It is suggested inserting the definition of matrix effect used in the SANCO/10684/2009 Guide:

> **Matrix effect: An influence of one or more undetected components from the sample on the measurement of the analyte concentration or mass. These matrix effects derive from various physical and chemical processes and may be difficult or impossible to eliminate. They may be observed as increased or decreased detector responses. The presence, or absence, of such effects may be demonstrated by comparing the response produced from the analyte in a simple solvent solution with that obtained from the same quantity of analyte in the presence of the sample or sample extract. Calibration curves in the matrix can compensate for the matrix effect but not eliminate it, even the intensity of the effect may differ from a matrix or sample with another; also the concentration of the matrix.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 30. It is suggested inserting the definition of analytical quality controls used in the SANCO/10684/2009 Guide:

> **Analytical quality controls: They correspond to the data or measurements generated during the development of the analytical method in the daily routine of a lot of analysis. Complementary data generated during routine work can be used to extend the validation method to other analytes, new matrixes or new concentration levels.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 31. It is suggested inserting the definition of linearity:

> **Linearity: The ability of a method of analysis, within a certain range, to provide an instrumental response or results proportional to the quantity of analyte to be determined in the laboratory sample. This proportionality is expressed by an a priori defined mathematical expression. The linearity limits are the experimental limits of concentrations between which a linear calibration model can be applied with an acceptable uncertainty. (Codex Alimentarius Comission, Procedure Manual, 17th Edition). See Guideline CAC/GL 72-2009.**

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 32. It is suggested inserting the definition of ruggedness:

Ruggedness: A measure of the capacity of an analytical procedure to remain unaffected by small but deliberate variations in method parameters and provides an indication of its reliability during normal usage. See Guideline CAC/GL 72-2009.

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 33. It is suggested inserting the definition of measurement uncertainty:

Measurement uncertainty: Parameter, associated with the result of a measurement, characteristic of the dispersion of the values that could be reasonably attributed to what is measured.

Justification: This concept is considered necessary to improve the comprehension and the order of the guidance.

Comment 34. It is suggested changing the definition of analyte protectant:

~~Analyte protectant: Compounds that strongly interact with active sites in the gas chromatographic (GC) system, thus decreasing degradation, adsorption, or both of co-injected analytes.~~

Analyte protectant: Compounds that interact closely with the analyte to decrease its thermal degradation or adsorption, in order to improve its sensitivity prior to analysis by gas chromatography.

Justification: The proposed definition provides clarity to the comprehension of the definition, it expresses better the role of the analyte protectant in the trial.

Comment 35. It is suggested deleting the definition of determination:

~~Determination: quantitative result of a method, but which has not yet met identification or confirmation criteria.~~

Justification: The term determination can be qualitative or quantitative, therefore its inclusion is not justified.

Comment 36. It is suggested changing the definition of identification:

~~Identification: process of unambiguously determining the chemical identity of a pesticide or metabolite in experimental or analytical situations.~~

Identification: process of unambiguously determining the chemical identity of an analyte or its metabolites in experimental or analytical situations.

Justification: The change is proposed because the term “identification” is used in different trials and it is not exclusively used for pesticides. In future it could also be suggested inserting it in the Guideline CAC/GL-72-2009.

Comment 37. It is suggested inserting the definition of limit of quantification (LOQ):

Limit of quantification (LOQ): The method performance characteristic generally expressed in terms of the signal or measurement (true) value that will produce estimates having a specified relative standard deviation (RSD), commonly 10% (or 6%). See Guideline CAC/GL 72-2009. [See paragraph 26].

Justification: It is necessary for the comprehension and the order of the guidance; it is proposed adding this concept to the list of definitions. In addition, the reference to paragraph 27 is incorrect, it corresponds to paragraph 26.

Comment 38. It is suggested changing the definition of matrix blank:

~~Matrix blank: Sample material containing no detectable concentration of the analytes of interest.~~

Matrix blank: Sample material or sample portion containing no detectable concentration of the analytes of interest.

Justification: The proposal gives more clarity to the definition.

Comment 39. It is suggested changing the definition of matrix-matched standards:

~~Matrix-matched standards: Standard solutions prepared in a matrix extract similar to that of the sample to be analysed which compensate for matrix effects if present.~~

Matrix-matched standards: Standard solutions prepared in a matrix similar to that of the sample to be analysed which allow compensation for matrix effects and its possible interferences during analysis.

Justification: The proposal gives more clarity to the definition.

Comment 40. It is suggested changing the definition of maximum residue limit (MRL):

~~Maximum residue limit maximum: Concentration of a residue that is legally permitted or recognized as acceptable in, or on, food commodities as set by Codex or a national regulatory authority. The term tolerance used in some countries is, in most instances, synonymous with MRL (normally expressed as mg/kg fresh product weight).~~

Maximum residue limit for pesticides (MRLP): Maximum concentration of a pesticide residue (expressed as mg/kg), recommended by the Codex Alimentarius Commission to be legally permitted in or on food commodities and animal feeds.

Justification: For consistency with the existing Procedure Manual.

Comment 41. It is suggested changing the definition of Multiresidue method (MRM):

~~Multiresidue method (MRM): A method which can determine three or more analytes in the same chemical class or in more than one class of pesticide.~~

Multiresidue method (MRM): A method which can determine three or more analytes in the same chemical class or in more than one class of compounds.

Justification: It is considered that it is not appropriate to limit the definition to pesticides, because the term is also used for veterinary drugs.

Comment 42. It is suggested changing the definition of Relative Standard Deviation (RSD):

~~Relative standard deviation (RSD): The standard deviation divided by the absolute value of the arithmetic mean, expressed in percentage. It refers to the precision of the method. Considering a single laboratory, the precision is expressed in terms of repeatability (RSDr) and reproducibility (RSDwR) within the laboratory~~.

Relative standard deviation (RSD): the standard deviation divided by the absolute value of the arithmetic mean, expressed in percentage. It refers to the precision of the method. See Guideline CAC/GL 72-2009.)

Justification: It is necessary for the comprehension and the order of the guidance.

Comment 43. It is suggested changing the definition of Relative Standard Deviation of repeatability (RSDr) and Relative Standard Deviation of within laboratory reproducibility (RSDR), leaving a single concept:

~~Relative standard deviation of repeatability (RSDr): The precision of measurement of an analyte, obtained using the same method on the same sample(s) in a single laboratory over a short period of time, during which differences in the materials and equipment used and/or the analysts involved will not occur.~~

~~Relative standard deviation of within laboratory reproducibility (RSDR): The precision of measurement of an analyte obtained using the same method on different samples, in a single laboratory, over a long period of time, during which differences in the materials and equipment used and the analysts involved will occur.~~

Relative standard deviation of repeatability (RSDr) or reproducibility (RSDR): Coefficient of variation, standard deviation in conditions of repeatability (o reproducibility) divided by the average. See Guideline CAC/GL 72-2009.

Justification: It is necessary for the comprehension and the order of the guidance.

Comment 44. It is suggested changing the definitions of repeatability and reproducibility, leaving a single concept:

~~Repeatability: for an analytical method, the closeness of agreement between results of measurements on identical test material subject to the following conditions: same analyst, same instrumentation, same location, same conditions of use, repetition over a short period of time.~~

~~Reproducibility: for an analytical method, the closeness of agreement between results of measurements on identical test material where individual measurements are carried under changing conditions such as: analyst, instrumentation, location, conditions of use, and time.~~

Repeatability (reproducibility): Precision under repeatability conditions (reproducibility). CAC/GL 72-2009.

Note 1: Repeatability conditions: the same measurement procedure or test procedure; the same operator; the same measuring or test equipment used under the same conditions; the same location and repetition over a short period of time. CAC/GL 72-2009.

Note 2: Reproducibility conditions: Observation conditions where independent test/measurement results are obtained with the same method on identical test/measurement items in different test or measurement facilities with different operators using different equipment CAC/GL 72-2009.

Justification: It is necessary for the comprehension and the order of the guidance.

Comment 45. It is suggested changing the definition of Screening detection Limit (SDL):

~~Screening detection Limit (SDL): the screening detection limit of a qualitative screening method is the lowest concentration for which it has been demonstrated that a certain analyte can be detected (not necessarily meeting unequivocal identification criteria) in at least 95% of the samples (e.g. a false negative rate of 5% is accepted) In the Spanish version change with.~~

Screening detection Limit (SDL): Lowest level of the fortified that has been shown to have certainty at a 95% confidence.

Justification: The term *cribado* [screening] is used in Spain, but in other Spanish speaking countries the terms *tamizaje* or *diagnóstico* are more common. For consistency with the definition of screening method.

Comment 46. It is suggested changing the definition of selectivity:

~~Selectivity: the extent to which the method can be used to determine particular analytes in mixtures or matrices without interferences from other components of similar behavior. Some regulatory authorities use the term specificity to refer to selectivity~~.

Selectivity: the capacity of a method to determine particular analyte(s) in a mixture(s) or matrice(s) without interferences from other components of similar behaviour CAC/GL 72-2009.

Justification: It is necessary for the comprehension and the order of the guidance.

Colombia

Colombia is pleased to submit the following comments:

Page 4, paragraph 7, letter c. Change the word "ISO/IEC **Guide** 17025:2005 " to **Standard.**

Page 4, paragraph 11, letter c. The applicability of the method should be based in terms as defined in scientific literature, in terms of % of moisture, fat, acidity and sugar, etc.

Page 4, paragraph 11, letter e. Change *MU* to *IM* [in Spanish] each time that it appears.

Page 5, paragraph 15, Add after: "....should not be used.": Another kind of nonlinear functions can be converted mathematically to linear functions and once treated can be verified by calculating the correlation coefficient and hypothesis if the system represents a model of linear perdition.

Page 5, paragraph 17, Add after: ".....at low residue levels.": A statistical proof can be applied to the found value of the intercept to show that this value does not differ significantly from zero.

Page 11, paragraph 45, letter c. Change the word ***ratios*** to ***relaciones*** [in Spanish].

Costa Rica

Costa Rica would like to take this opportunity to externalize the following comments:

Concerning paragraph 2, first line: The acronym MRM is used to define two different concepts in the document; to define method multi-residue, and subsequently on page 11, Table 1, to define multiple reaction monitoring. Costa Rica considers important to clarify it or harmonize the concepts.

In addition, Costa Rica considers that using the same acronym for different concepts may cause confusion in the interpretation of the document.

In paragraph 4, line 3: replace in the Spanish version of the document, the term "cuantitación" by the term "**cuantificación**" [quantification]. This can cause confusion in the interpretation of the document.

Paragraph 15, letter a: It Indicates that there should be five or more calibration standards, however there are methodologies that could be established with 3 or even 1 calibration standard and it is technically valid.

Paragraph 43, line 3: replace in the Spanish version of the document, the term "errores graves" [gross error] by the term "**errores determinados**" [certain errors].

Paragraph 43, line 6: replace in the Spanish version of the document, the term "Diferentes químicas de preparación" [different chemistries of ... preparation] by the term "**Diferentes técnicas químicas de preparación**" [different chemistry techniques of ….. preparation].

Finally Costa Rica proposes that throughout the document the symbols of the international system of units (SI) should be included, as it is the internationally recognized system to express units, and the system used by the majority of the member countries of CODEX; in this way confusion in translation could be avoided.

El Salvador

In general we agree with the proposed draft. In El Salvador validation protocols are applied as specified by the National Accreditation Body, which conform to what is presented in the document, therefore future application of the guidelines would not provide any difficulties for the country. Currently ISO/IEC 17025:2005 has been adopted as a national technical rule.

Specific comments in the Spanish version:

Paragraph 4: Change *cuantitación* by *cuantificación* [**quantification]**

Paragraph 8: ISO/IEC Guide 17025, add the year of the standard (2005), being: **Standard ISO/IEC 17025:2005**

European Union

The European Union (EU) would like to thank the electronic working group chaired by the United States and co-chaired by China for the preparation of the document on 'Proposed draft Guidelines on performance criteria specific for methods of analysis for determination of pesticides residues in food.'

However, the EU noticed with great disappointment that in the document CX/PR 15/47/10 the EU contribution to the eWG of the EU and some of its Member States has not been taken on board and no reasoning for this decision was given. The EU would have appreciated better communication and greater transparency in the workings of the eWG.

EU would like to make the general comment that throughout the document it should be clarified which criteria apply to initial method validation and which ones to routine analysis.

Furthermore, the EU wishes to provide the following specific comments:

Page	Paragraph	Comment	Rationale
Page #	Paragraph #	Added text is indicated in bold and underlined, removed text is indicated in strikethrough text.	
5	12	**For example, t**o minimally estimate rates of false positives and negatives during method validation, analyze ≥20 each of diverse matrix blanks (not from the same source) and spiked matrices at the analyte reporting level (e.g., 50% of the MRL).	This procedure applies mainly to qualitative methods for quantitative methods other approaches can be performed as checking the slope and intercept of the linear regression of recoveries obtained during the validation at various levels

Page	Paragraph	Comment	Rationale
5	13	"The procedures described here relate to calibration studies in **initial** validation, which are ~~necessarily~~ more ~~involved~~ **extensive** than calibration**s** undertaken during routine analysis.	Add the word "initial". It is important to distinguish between initial and on-going (extended) validation.
5	15	Linearity can be tested by examination of a plot of residuals produced by linear regression of the responses on the concentrations in an appropriate calibration set **(For multi-level calibration, individual residuals must not derive more than 20%)**. Any curved pattern …	It is necessary to propose a criterion for the evaluation of linearity of the calibration curve especially for low levels and to estimate the necessity to use or not, weighted linear or weighted quadratic functions.
5	16	Replicate measurements are needed to provide an estimate of pure error if there is no independent estimate. In the absence of specific guidance, the following should apply **for the initial method validation** (for univariate linear calibration):	A clear distinction should be made between initial validation of the method and the daily quality control checks as regards calibration, recoveries, etc... In the document it is not clear whether the performance parameters to be characterised and defined for analytical methods should be studied routinely or only during the validation of the method. A good example of this can be found in paragraph 16 as regards calibration (the calibration standards should be run at least in duplicate, and preferably triplicate or more, in a random order). This should refer to the initial validation, as doing so routinely would be impractical.
5	16	There should be **preferably** ~~five~~ **three** or more calibration standards.	
5	16	Change wording of the following bullet-point: "the range should encompass **the entire concentration range likely to be encountered (e.g.** LOQ–150%) ~~concentration likely to be encountered~~; and "	In many cases it is reasonable or at least not critical to choose a narrower range. For example in validation experiments where recoveries are expected to be in the range between 80 and 110 % it is enough to calibrate in the range between, e.g. 60 and 120% of the theoretical value. However, in market control any concentration below the CXL can occur. It is better to give as an example 'LOQ-150%' because establishing 0-150% means that 0 concentration (blank) has to be evaluated and considered and in general this is not the case. Logically LOQ is always evaluated.

Page	Paragraph	Comment	Rationale
6	18	Change wording of the following sentence: "The test should be done in a way that provides **approximately** the same final dilution as produced in the normal procedure, and the range of additions should encompass the same range as the procedure-defined calibration validation."	There is a practicability issue here. During spiking of blank extracts the volume and with it the matrix concentration will change automatically. If the dilution factor is not dramatic (<15%) the differences in matrix effects compared to an undiluted extracts will be insignificant. Where internal standards are used such volume differences can be easily compensated. Differences in matrix effects between matrices of the same type may be even more pronounced in some cases..
6	18	If desired, total extractability can be measured by comparing the **own method** ~~MRM~~ with the official method provided by the registrants.	This also applies to any method, also single residue methods
6	19	Bias is typically determined by comparing the response of the method to a reference material **(internal or external)** with a known value assigned to the material	If a reference material is not available, it is necessary to produce one. A minimum of 10 replicates in reproducibility conditions is necessary.
6	20	Recovery refers to the proportion of analyte remaining at the point of the final determination, following its addition (usually to a blank sample) ~~immediately~~ prior to extraction, generally expressed as a percentage. Routine recovery refers to the determination(s) performed with the analysis of each batch of samples.	It makes no sense to extract residue immediately after spiking. A delay is needed to let the solvent evaporate at minimum. Various delays can be applied, ranging from 30 min. to overnight (in the case of food of animal origin).

Page	Paragraph	Comment	Rationale
7	26	The common accepted definition of LOQ is the concentration at which signal to noise (S/N) ratio is 10. ~~This reflects 95% confidence (19 out of 20 times) that an analyte at that concentration will be determined~~. The LOQ is typically only an estimate because determination of the precise LOQ takes many analyses of spiked samples and matrix blanks to accurately determine signal/noise, which is typically a fruitless exercise because the LOQ changes from day-to-day depending on the state of the instrument. Some validation guidelines require that the LOQ be verified to meet method performance criteria via spiking experiments at the LOQ, but a better term for use of this concept is lowest validated level (LSVL). Furthermore, quantification of analytes should not be made below the lowest calibrated level (LCL) in the same analytical sequence. The Signal to noise (S/N) ratio at the LCL must be ≥10 (conc. ≥ LOQ), which can be set as a system suitability check required for each analytical sequence. A quality control matrix spike can also be included in each sequence to verify that the reporting limit (RL, an action level that should be equal or greater than the LCL and the LSVL) is achieved in the analysis ~~(an action level is typically greater than the LCL)~~. In essence, the point of the validation is not to determine the LOQ, but to demonstrate that the lowest reported concentration meeting the need for the analysis will be equal to or greater than the LOQ.	The 95% confidence criterion seems to come from the LOD definition which refers to identification. In quantification S/N>10 may typically lead to acceptable precision (RSD) but will not guarantee acceptable accuracy (bias). There is many other factors having an influence in this. LSVL is preferred tp LCL as validation can be successful (meeting the criteria) or unsuccessful. In this case must be successful

Page	Paragraph	Comment	Rationale
8	34	…may be based on ~~microbiological growth inhibition, immunoassays, or chromogenic responses~~ **mass spectrometric techniques (in full scan)** which may not unambiguously identify a compound. ~~Mass spectrometric techniques also are used for screening purposes.~~	Microbial growth inhibition, immunoassays or chromogenic responses are not relevant for pesticide residues.
9	39	**During initial validation,** a minimum of 5 replicates **(in conditions of reproducibility)** is required (to check the recovery and precision) at the targeted **LSVL** ~~LOQ~~ or reporting limit of the method, and at least one additional higher level, for example, 2-10x the targeted LOQ or the MRL.	To be in agreement with chapter 26
9	39	However, a more accurate method should be used, if practicable. Within-laboratory reproducibility, which may be determined from on-going quality control data in routine analyses, should be ≤ 20%, excluding any contribution due to sample heterogeneity. Acceptable mean recoveries range from 70-120% with a RSD ≤20%. **Individual recoveries in routine multi-residue analysis of 60-140% can be accepted,**	Criteria should be added for on-going quality control in routine analysis (as opposed to the initial method validation where the mean recoveries should be between 70-120%).
9	40	The trueness of a method may be **ideally** determined by analysis of a certified reference material **or a comparative test material**, by comparison of **own** results with **the respective assigned values**. **Alternatively accuracy can be demonstrated by comparing results obtained using the own method with results** ~~those~~ obtained using another method for which the performance parameters have previously been rigorously established (typically, a collaboratively studied method), or by determination of the recovery of analyte fortified into known blank sample material.	For better clarity of the sentence. In addition to the analysis of CRMs, which are often not available the participation in proficiency tests is also a good means of assessing the accuracy of a laboratory.

Page	Paragraph	Comment	Rationale
9	40	"~~At relatively high concentrations, analytical recoveries are expected to approach one 100%.~~ At lower concentrations, particularly with methods involving extensive extraction, isolation, and concentration steps, recoveries may be lower **due to losses in each step**.	It is true that certain types of losses, e.g. those related to interactions with surfaces and sometimes oxidations will decrease in proportional (percentage) terms. This however will not apply to losses related to partitioning between phases which are mainly related to the types of solvents involved their volumes and the polarity of the analyte.
10	41	However, a more accurate method should be used, if practicable. ~~If available and affordable, participation in a proficiency testing program should be done.~~ Recovery corrections should be made consistent with the guidance provided by the CAC/GL 37-2001.	Move in chapter 40, usually, participation to proficiency test is used to estimate the ability of a laboratory to perform a method (most of all by the estimation of the trueness).
10	42	When appropriate, the detection system may be calibrated using standard solutions in a blank matrix ~~similar to that of the sample to be analyzed~~ (matrix-matched standards) which **is able to** compensate for matrix effects and **has** ~~if present,~~ acceptable interference **if present**.	Standard solutions sometimes are prepared in a matrix extract which is not similar to that of the sample to be analysed, but which is able to compensate for matrix effects and has acceptable interference. The reason for this is that often a similar matrix is not available or not feasible due to the presence of different matrices in the same sequence. For example, for GC analysis other matrices than the similar matrix will be able to satisfactorily compensate for matrix effects.
10	42	To achieve accurate results using a standard addition approach, it is essential to assure a linear response in the concentration range investigated. **Another alternative solution for compensating matrix effects can be the dilution of the sample, provided that the sensitivity of the detector is sufficiently high.**	The dilution of extract is usually the simplest approach to compensate matrix effect if the sensitivity of the detector is sufficiently high

Page	Paragraph	Comment	Rationale
10	43	The development of a separate confirmatory method is not generally needed when the original method is based on mass spectrometry or another highly specific technique. By far, gross error (mistakes) is the greatest source of misidentifications in MS-based methods. For this reason, all regulatory enforcement actions require confirmation of the result via re-extraction of a replicate test portion of the original sample and re-analysis, ideally using different chemistries of sample preparation and/or analysis. ~~Millions of dollars, international relations, and personal/business reputations may be at stake in regulatory determinations, and the laboratory must be sure of that all reports of residue violations are correct and validated.~~	This document is a guideline with performance criteria for analytical methods. Economic considerations are not to be taken into account.
10	45	c.) the ratios of peak areas for each ion transition should match the ratios of the standard(s) within specified criteria. ~~Options include using ±10% absolute for one transition or ±20% absolute for two or more transitions, or~~ following the criteria stated in Table 2;	Leaving the choice between using ±10% absolute for one transition or ±20% absolute for two or more transitions, **or** following the criteria stated in Table 2 is confusing. It is better to only refer to table 2.
11	45	d.) reagent and matrix blanks must be shown to be free of carry-over, contamination, and/or interferences above an appreciable level **(<30% LSVL);**	A criterion needs to be specified.
11	46	Table 1: remove TOF in unit mass resolution Quadrupole, ion trap, ~~time-of-flight (TOF).~~	Time of flight is a high resolution detector

Page	Paragraph	Comment	Rationale
12	51	Retention time data base should be adjusted for the current conditions. ~~In tolerance intervals of 1.5 to 3% of the absolute retention time may be applied for capillary GC depending on the peak shape. For confirmation of the retention time, the absolute tolerance intervals will increase at higher retention time.~~ The tolerance interval should be less than 0.2 minutes or 0.2% relative retention time (RRT). ~~For higher retention times, 6 seconds is a suitable interval~~	The RT threshold given here does not match with the threshold given in paragraphs 45 and 49.
14	Appendix I	Matrix-matched standards: standard solutions prepared in a matrix extract ~~similar to that of the sample to be analyzed~~ which **is able to** compensate for matrix effects **and has acceptable interference**, if present.	Standard solutions sometimes are prepared in a matrix extract which is not similar to that of the sample to be analysed, but which is able to compensate for matrix effects and has acceptable interference. The reason for this is that often a similar matrix is not available or not feasible due to analyses of different matrix in the same run. For example, for GC analysis other matrices than the similar matrix will be able to satisfactorily compensate for matrix effects.

Japan

We would like to submit specific comments on the proposed draft guidelines (Appendix I) as follows.

SCOPE, paragraph 3

The last sentence should be deleted as it is too specific to be written in the SCOPE and it overlaps with the description of paragraph 12, and paragraphs 33 to 35.

3. In this document, a MRM is defined as a method which can determine three or more analytes in the same chemical class or in more than one class of pesticide. This guidance covers qualitative (screening, identification, confirmation) and quantitative analyses, each having their own specific method performance requirements. ~~For qualitative purposes, method validation involves analysis of ≥20 each of diverse matrix blanks and matrix spikes at the reporting level to minimally assess rates of false positives and negatives.~~

D. Linearity and Intercept, bullet point a. under paragraph 16

Bullet point a. under paragraph 16 should be replaced with “Duplicate determinations at three or more concentrations or single determinations at five or more concentrations should be performed.” in order to ensure consistency with paragraph 60 of the OECD guidance (see Ref-11 ENV/JM/MOMO(2007)17).

16. Replicate measurements are needed to provide an estimate of pure error if there is no independent estimate. In the absence of specific guidance, the following should apply (for univariate linear calibration):

    a. ~~there should be five or more calibration standards~~ **Duplicate determinations at three or more concentrations or single determinations at five or more concentrations should be performed;**

PERFORMANCE CHARACTERISTICS OF METHODS FOR ANALYTE IDENTIFICATION AND CONFIRMATION, paragraph 43

Second, third, and fourth sentences in paragraph 43 should be deleted as they are not relevant to performance characteristics of confirmatory analytical methods. Instead, it is necessary to add the sentence to clarify recommended actions in the case when the original method is not based on mass spectrometry or another highly specific technique as follows:

43. The development of a separate confirmatory method is not generally needed when the original method is based on mass spectrometry or another highly specific technique. ~~By far, gross error (mistakes) is the greatest source of misidentifications in MS-based methods. For this reason, all regulatory enforcement actions require confirmation of the result via re-extraction of a replicate test portion of the original sample and re-analysis, ideally using different chemistries of sample preparation and/or analysis. Millions of dollars, international relations, and personal/business reputations may be at stake in regulatory determinations, and the laboratory must be sure of that all reports of residue violations are correct and validated.~~**On a case-by-case basis, additional confirmation may be necessary, for example when the first method is an immunoassay, or, when selective detectors that offer only limited specificity are coupled with GC or LC techniques as their use, even in combination with different polarity columns, does not provide unambiguous identification.**

Peru

GENERAL COMMENTS:

The Technical Committee on Pesticides Residues agreed by consensus to support the proposed draft guidance on performance criteria for methods of analysis for the determination of pesticide residues, which will provide Codex members with a document which sets out the methods and performance criteria for multi-residue test analyses for pesticide residues in food.

SPECIFIC COMMENTS:

In relation to the above-mentioned proposed draft, it is stated as follows:

1. This technical committee considers that in paragraph H, on analytical range (which has been taken from Pure & Appl.. Chem., 74(5), 2002; (835 855) the reference in the EURACHEM GUIDE- The Fitness for Purpose of Analytical Methods could be used, which is more complete and can be found on page 27 (document attached).

2. A comment and/or inquiry on paragraph 39, on the acceptability criteria for a quantitative analytical method: Due to the distribution of analytes at a stage of partitioning, a mean recovery below 70% may be acceptable. However, a more accurate method should be used, if practicable. Sometimes it is not feasible to use a more accurate method; but paragraph 39 suggests that mean recoveries below 70% may be acceptable. What would be the minimum acceptable value: 50 or 60%, if there is good precision. The SENASA laboratory of residues has some analytes such as Spinosad which achieve a mean recovery of 51% and could an accuracy of 15% be considered acceptable? We have that concern, since some documents of the AOAC state that in a routine analysis we can accept recoveries between 50 and 140%.

African Union

i) In the Scope of the document, Paragraph 3 of the document, the statement “In this document, a MRM is defined as a method which can determine three or more analytes in the same chemical class or in more than one class of pesticide” should be taken out of the document since it is in the definitions section. Further, the statement “For qualitative purposes, method validation involves analysis of ≥20 each of diverse matrix blanks and matrix spikes at the reporting level to minimally assess rates of false positives and negatives” should not be included in the scope, since the concept of method validation is discussed in the main body of the document, in the section of Method validation.

ii) In the section “Principles for the selection and validation of methods” is not captured in the table of contents. The second sub-title “Identification of method requirements” is not covered nor does it reflect the text in paragraphs 4, 5 and 6. The sub-title should therefore be deleted or reworded and can read “Criteria for selection of method requirements”.

Paragraph no.6, the principle of the selection of methods should be described in summary; we propose that reference be made to ENV/JM/MOMO(2007), while the use of the word “discussed” is discouraged.

AU proposes that the text in Paragraph no.6 be replaced with “**The method(s) should: have the ability to determine all of the likely analytes that may be included in the residue definition (both for risk assessment and enforcement); be sufficiently selective so that interfering substances never exceed 30% of the limit of analytical quantitation (LOQ); demonstrate acceptable recovery and repeatability; cover all crops, animals, and feed items being treated.”**

RATIONALE: This text describes the selection of the method and is referenced from the OECD document ENV/JM/MOMO(2007).

Whereas we appreciate the importance of competence of laboratories involved in the import and export of food, the text used in Page 4 (Para 7 and 8) with respect to “Implementing other Codex Alimentarius Commission Guidelines” is not in tandem with proposed guidelines on performance criterion specific for methods of analysis for the determination of pesticide residues in food. The guideline mentioned (CAC/GL 27 – Guidelines for the assessment of the competence of testing laboratories involved in the import and export of food) should be a pre-requisite of laboratories involved and not the basis for performance criterion for methods used for the determination of pesticide residues in food.

iii) We propose that Paragraph 8 should be changed to read “The methods should be used within the internationally accepted, approved, and recognized laboratory Quality Management System, following a standard such as ISO/IEC 17025:2005- General Requirements for the Competence of Calibration and Testing Laboratories”.

iv) In the section for Method Validation, we propose that a comprehensive detail be provided that covers the parameters in method validation (such as Recovery, Linearity, Calibration, Selectivity / Specificity, Repeatability, Reproducibility, Matrix effects and limit of quantification). The elements are covered in other parts of the document and may only require re-organisation which is very relevant to the flow of the guidance on performance criterion specific for methods of analysis for the determination of pesticide residues in food.

However, AU wishes to emphasise that the outstanding issues in the document should be properly re-aligned.

In view of the editorial changes we support the re-establishment of the In-session Working Group to continue improving the document on the guidance on performance criterion specific for methods of analysis for the determination of pesticide residues in food.