

# CODEX ALIMENTARIUS COMMISSION



**Food and Agriculture  
Organization of  
the United Nations**



**World Health  
Organization**

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**ALINORM 10/33/24**

## **JOINT FAO/WHO FOOD STANDARDS PROGRAMME**

### **CODEX ALIMENTARIUS COMMISSION**

*Thirty-third Session  
Geneva, Switzerland, 5-9 July 2010*

### **REPORT OF THE FORTY-SECOND SESSION OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES**

*Xian, China  
19 – 24 April 2010*

NOTE: This report contains Codex Circular Letter CL 2010/11-PR

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May 2010

**TO:** - Codex Contact Points  
- Interested International Organizations

**FROM:** Secretariat,  
Codex Alimentarius Commission  
Joint FAO/WHO Food Standards Programme  
Viale delle Terme di Caracalla,  
00153 Rome, Italy

**SUBJECT: DISTRIBUTION OF THE REPORT OF THE FORTY-SECOND SESSION OF THE CODEx  
COMMITTEE ON PESTICIDE RESIDUES (ALINORM 10/33/24)**

The report of the Forty-Second Session of the Codex Committee on Pesticide Residues will be considered by the 33<sup>rd</sup> Session of the Codex Alimentarius Commission (Geneva, Switzerland, 5 - 9 July 2010).

**PART A: MATTERS FOR ADOPTION BY THE 33<sup>RD</sup> SESSION OF THE CODEx  
ALIMENTARIUS COMMISSION:**

1. *Draft and Draft Revised Maximum Residue Limits for Pesticides at Step 8 (paras 28-85 and Appendix II); and*
2. *Proposed Draft Maximum Residue Limits for Pesticides at Step 5/8 – with omission of Steps 6 and 7 - (paras 28-85 and Appendix III)*

Governments and interested international organizations wishing to submit comments on the above draft and proposed draft MRLs, including the implications they may have for their economic interest, should do so in writing, in conformity with the Procedures for the Elaboration of Codex Standards and Related Texts (*Codex Alimentarius Procedural Manual*), **preferably by email**, to the Secretariat, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy (fax: +39 06 57054593; e-mail, [codex@fao.org](mailto:codex@fao.org)) **before 11 June 2010**.

3. *Proposed Draft Maximum Residue Limits for Pesticides at Step 5 (paras 28-85 and Appendix IV);*
4. *Proposed Draft Revision of the Codex Classification of Foods and Animal Feeds at Step 5 - Proposals for Three Commodity Groups: Tree Nuts, Herbs and Spices (para. 105 and Appendix X); and*
5. *Proposed Draft Principles and Guidelines for the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides for Commodity Groups at Step 5 (para. 116 and Appendix XI)*

Governments and interested international organizations wishing to submit comments on the above proposed draft MRLs and related texts, including the implications which they may have for their economic interest, should do so in writing in conformity with the Procedures for the Elaboration of Codex Standards and Related Texts (*Codex Alimentarius Procedural Manual*), **preferably by email**, to the above address **before 11 June 2010**.

**PART B: OTHER MATTERS FOR ACTION BY THE 33<sup>RD</sup> SESSION OF THE CODEX ALIMENTARIUS COMMISSION**

**6. *Codex Maximum Residue Limits for Pesticides Recommended for Revocation and Draft Codex Maximum Residue Limits for Pesticides recommended for Withdrawal (paras 28 – 85 and Appendices V and VIII)***

Governments and interested international organizations wishing to submit comments on the proposed revocations on Codex MRLs or discontinuation of work on draft MRLs should do so in writing, **preferably by email**, to the above address **before 11 June 2010**.

**PART C: REQUEST FOR COMMENTS AND INFORMATION ON:**

**7. *Concern Forms (paras 34, 44 and 83)***

Member governments that are listed in paras 34, 44 and 83 should submit concern forms together with necessary data, **preferably by email**, to: **1)** Ms Yong Zhen YANG, Agricultural Officer and JMPR Secretary, Viale delle Terme di Caracalla, Rome 00153, Italy (Fax:+39 06 57053224, E-mail: YoungZhen.Yang@fao.org); **2)** Dr Angelika TRITSCHER, WHO JMPR Secretary, Appia Avenue 20, 1211 Geneva 27, Switzerland (Fax: +41 22 791 4848, E-mail: tritschera@who.int); **3)** Dr Xiongwu QIAO, Shanxi Academy of Agricultural Sciences, 2 Changfeng Street, Taiyuan, Shanxi Province, 030006, P.R. China (Fax: +86 351 7126215, E-mail: ccpr\_qiao@agri.gov.cn); and **4)** Secretariat, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy (Fax: +39 06 57054593; E-mail: codex@fao.org ) **before 11 June 2010**.

Those countries and observers specified under individual compounds in ALINORM 10/33/24, Appendix XII concerning matters related to the future JMPR meetings (GAPs, residue evaluation, intake assessment, etc.) on specific pesticide/commodity(ies) to be considered at subsequent years by JMPR, are invited to send information or data **one year before** JMPR considers these compounds at the addresses indicated above.

**8. *Proposed Draft Revision of the Guidelines on the Estimation of Uncertainty of Results for the Determination of Pesticide Residues at Step 3 (para. 123 and Appendix XIII)***

Governments and interested international organizations wishing to submit comments on the above proposed draft texts should do so in writing in conformity with the Procedures for the Elaboration of Codex Standards and Related Texts (*Codex Alimentarius Procedural Manual*), **preferably by email**, to: 1) Dr Xiongwu QIAO, Shanxi Academy of Agricultural Sciences, 2 Changfeng Street, Taiyuan, Shanxi Province, 030006, P.R. China (Fax: +86 351 7126215, E-mail: ccpr\_qiao@agri.gov.cn); 2) Codex Contact Point, Codex Australia, Product Integrity, Animal and Plant Health, Australian Government Department of Agriculture, Fisheries and Forestry, GPO Box 858 Canberra ACT 2601, Australia (Fax: +61 2 6272 3103, E-mail: ann.backhouse@daff.gov.au); and 3) the Secretariat, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy (Fax: +39 06 57054593; E-mail, codex@fao.org) **before 17 September 2010**.

## SUMMARY AND CONCLUSIONS

The summary and conclusions of the 42<sup>nd</sup> Session of the Codex Committee on Pesticide Residues are as follows:

### MATTERS FOR ADOPTION BY THE 33<sup>RD</sup> SESSION OF THE COMMISSION

#### Adoption of MRLs and other related texts

- Adoption of draft and draft revised MRLs at Step 8, including proposed draft MRLs at Step 5/8, for pesticide/commodity combinations (paras 28 – 85 and Appendices II and III);
- Adoption of proposed draft MRLs at Step 5 for pesticide/commodity combinations (paras 28 – 85 and Appendix IV);
- Adoption of the proposed draft revision of the *Codex Classification of Foods and Animal Feeds* for three commodity groups at Step 5 (para. 105 and Appendix X).
- Adoption of the proposed draft revision of the *Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of MRLs to Commodity Groups* at Step 5 (para. 116 and Appendix XI).

#### Revocation of MRLs

- Revocation of Codex MRLs for pesticide/commodity combinations (paras 28 – 85 and Appendix V);

#### Discontinuation of work

- Discontinuation of work on the establishment of MRLs for pesticide/commodity combinations (paras 28 – 85 and Appendix VIII).

#### Approval of new work

- The pilot project in which JMPR would conduct an independent, parallel review along with a global joint review team and recommend MRLs before national governments establish MRLs in 2011 (para. 202).

### MATTERS OF INTEREST TO THE COMMISSION

The Committee:

- agreed to retain several draft and proposed draft MRLs at Step 7 awaiting for JMPR evaluation (paras 28 – 85 and Appendix VI);
- agreed to return several draft MRLs to Step 6 for further comments and consideration at its next session (paras 28 – 85 and Appendix VII);
- agreed to retain the proposed draft revision of the *Codex Classification of Foods and Animal Feeds* for eight commodities at Step 7, awaiting finalization of the revision of other commodity groups in compliance with the decision of the earlier session of this Committee (para. 96 and Appendix IX);
- agreed to return the *draft Guidelines on the estimation of uncertainty of results for the determination of pesticide residues* to Step 3 for additional comments and consideration at its next session (para. 123 and Appendix XIII);
- agreed to return the *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues* for additional comments, redrafting, and consideration at its next session (paras 150 – 152);

- agreed not to revise all EMRLs for POPs and consider the status of Codex MRLs for lindane at the next session of the Committee (paras 131-133);
- agreed if the OECD requests any input on further developments of the calculator, the Codex Secretariat would circulate this request to all Codex Member Countries (para. 138);
- agreed to continue to identify priority minor uses and specialty crops for MRL setting and to prepare proposals for definitions of minor use and specialty crops for consideration at its next session (para. 163);
- agreed on the priority list of pesticides to be evaluated by JMPR, for adoption by the 33<sup>rd</sup> Session of the Commission (para. 186 and Appendix XII); and
- agreed to retain the *Guidelines on the Portion of Commodities to which Codex MRLs apply and which is analyzed (CAC/GL 41-1993)* as a single document (para. 190), and consider the status of a list of analytical methods for pesticide residues on the IAEA website at its next session (para. 194)

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## LIST OF ABBREVIATIONS

(Used in this Report)

CAC	Codex Alimentarius Commission
CCFA	Codex Committee on Food Additives
CCGP	Codex Committee on General Principles
CCMAS	Codex Committee on Methods of Analysis and Sampling
CCNFSDU	Codex Committee on Nutrition and Foods for Special Dietary Uses
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
CLI	CropLife International
EFSA	European Food Safety Authority
EWG	Electronic Working Group
EC	European Community
FAO	Food and Agricultural Organization of the United Nations
GEMS/Food	Global Environment Monitoring System - Food Contamination Monitoring and Assessment Programme
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Meetings on Pesticide Residues
OECD	Organisation for Economic Co-operation and Development
USA	United States of America
WHO	World Health Organization
WTO	World Trade Organization
ARfD	Acute Reference Dose
ADI	Acceptable Daily Intake
CXL	Codex Maximum Residue Limit for Pesticide
DIE	Daily Intake Estimate
GAP	Good Agricultural Practice in the Use of Pesticides
EMRL	Extraneous Maximum Residue Limit
HR	Highest residue in edible portion of a commodity found in trials used to estimate a maximum residue level in the commodity
IESTI	International Estimated Short-Term Intake
MRL	Maximum Residue Limit

## INTRODUCTION

1. The Codex Committee on Pesticide Residues (CCPR) held its 42<sup>nd</sup> Session in Xian, China, from 19 to 24 April 2010 at the kind invitation of the Government of China. Professor Xiongwu Qiao, Vice-Director of the Shanxi Academy of Agricultural Sciences chaired the session, assisted by Dr Weili Shan, the Director of Residue Division of Institute for Control of Agrochemicals, Ministry of Agriculture, as Vice-chairperson. The Session was attended by 190 delegates representing 51 Member Countries, one International Government and 7 Non-governmental Organizations. The list of participants is attached as Appendix I to this Report.

## OPENING OF THE SESSION

2. Madam Yuxiang Zhang, Chief Economist of the Ministry of Agriculture of the People's Republic of China, opened the session. She welcomed the participants and emphasized the important role and achievements of this Committee in ensuring the safety of agricultural products traded internationally. Madam Zhang also drew the attention of delegates to activities of the Chinese government in ensuring food security and food safety in China.

3. Ms Victoria Sekitoleko, FAO Representative Office in China also welcomed delegates. She thanked the Government of China for its support in hosting two important Codex Committees, namely this Committee and the Committee on Food Additives and welcomed the recent developments on food safety in China.

4. Mr Yinliang Yao, vice-governor of ShaanXi Province and Prof Zongmao Chen, Academician of Chinese Academy of Engineering and the former CCPR chairperson, also welcomed the participants.

## Division of Competence<sup>1</sup>

5. The Committee noted the division of competence between the European Community (EC) and its Member States, according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission, as presented in CRD 2.

6. Due to exceptional circumstances associated with air traffic problems in European airports, the Committee agreed that the EU common positions would be presented by the official of the General Secretariat of the Council of the European Union, integrated in the Delegation of Spain, until the other members of the Spain Delegation and the Delegation of the EU would be able to come to the session.

## ADOPTION OF THE AGENDA (Agenda Item 1)<sup>2</sup>

7. The Committee agreed to consider Agenda Item 13 (a) *Achieving Globally Harmonized MRLs through Codex* before Agenda Item 12 *Establishment of Codex Priority Lists of Pesticides* and adopted the Provisional Agenda as the Agenda for the Session.

## In-session working group on methods of analysis and sampling

8. The Committee noted that the Chairperson of the in-session working group on Methods of Analysis and Sampling, Dr Josef Brodesser, was not able to attend the session and agreed that the in-session working group would be chaired by Australia and co-chaired by China.

## APPOINTMENT OF RAPORTEURS (Agenda Item 2)

9. The Committee appointed Mr David Lunn (New Zealand) and Ms Kathy Monk (United States of America) to act as rapporteurs.

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<sup>1</sup> CRD 2 (European Union Division of Competence)

<sup>2</sup> CX/PR 10/42/1.

**MATTERS REFERRED TO THE COMMITTEE BY THE CODEX ALIMENTARIUS COMMISSION AND/OR ITS SUBSIDIARY BODIES (Agenda Item 3)<sup>3</sup>**

10. The Committee noted that matters arising from the 32<sup>nd</sup> Session of the Codex Alimentarius Commission were presented for information purposes only or would be discussed in more detail by the current session of the CCPR under the relevant Agenda Items.

11. The Committee also noted matters arising from the 31<sup>st</sup> Session of the Committee on Methods of Analysis and Sampling in relation to the revision of the Guidelines for Measurement of Uncertainties that might be relevant when the Committee considered the proposed draft revised Guidelines on the Estimation of Uncertainty of Results for the Determination of Pesticide Residues (Agenda Item 7a) and the identification of methods of analysis for health related substances (including pesticides) in the Standard for Natural Mineral Waters that has been endorsed by CCMAS and forwarded to the 33<sup>rd</sup> Session of the Commission for adoption. It was further noted that ISO and AOAC methods proposed by the CCMAS for pesticides apply to organochlorine pesticides and PCBs.<sup>4</sup>

**REPORT ON ITEMS OF GENERAL CONSIDERATION BY THE 2009 JOINT FAO/WHO MEETINGS ON PESTICIDE RESIDUES (JMPR) (Agenda Item 4 (a))<sup>5</sup>****2.1 Transparency in the Maximum Residue Level estimation process - further considerations**

12. The FAO JMPR secretary recalled that the 41<sup>st</sup> Session of the Committee requested the 2009 JMPR to use the OECD statistical calculation method when estimating maximum residue levels, and if not available to continue using the NAFTA calculator method. The JMPR was also requested to provide a brief explanation of derivation of the maximum residue levels when the calculator was not used.

13. In response to the CCPR request, the FAO JMPR secretary explained that the 2009 JMPR had continued to use the NAFTA calculator method, and that additional explanation on how the value was derived for each pesticide/commodity maximum residue level was provided to the CCPR.

14. The Committee was advised that the JMPR applied expert judgement informed by available tools such as statistical approaches to estimate maximum residue levels. Additional factors are taken into account by the JMPR as part of the application of expert judgement.

15. Examples of how the JMPR uses expert judgement have been included in the 2009 JMPR Report and these indicate that evaluation of residue data is a complex task that requires the consideration of other factors and parameters in addition to the numerical residue values.

16. Regarding the issue of transparency, the Delegation of the USA recognized the efforts which have been made by the JMPR to provide a much more detailed explanation of the basis for the JMPR MRL recommendations, noting that this information is very useful for national authorities as they consider the most appropriate MRL in their situation and it is very useful to the CCPR risk managers who can now more clearly understand the basis of the JMPR MRL recommendations.

17. In regard to the use of an MRL calculator as a tool in MRL harmonization, the Delegation of the USA noted there still seems to be some lack of recognition of the importance of the use of an agreed tool as a potential aid in harmonization of MRLs, not because it dictate a result, but because it provides as starting point and a presumption that unless there is a good reason not to use the result of

<sup>3</sup> CX/PR 10/42/2, CRD 11 (Information from the Committee on Methods of Analysis and Sampling on the consideration of measurement uncertainty, prepared by the Codex Secretariat).

<sup>4</sup> ALINORM 10/33/23, paras 34-56 and 99-109.

<sup>5</sup> Section 2 of the 2009 JMPR Report, CRD 3 (comments from China), CRD 4 (prepared by JMPR), CRD 5 (Corrigenda to the 2009 JMPR report prepared by JMPR), CRD 15 (prepared by the European Union), CRD 18 (comments from Paraguay).

the calculator, the result should be used and, if not used, the reason should be documented for all to see and understand.

18. In regard to the use of an MRL calculator, the FAO JMPR secretary emphasized that the calculator tool is very helpful, but that currently no appropriate international calculator has been available to be used by JMPR and, in regard to transparency that the JMPR will continue to strive to improve the explanations of the MRL derivations.

19. The Delegation of the EU welcomed the development of the OECD MRL calculator and the exploration of its use by JMPR, and supported the view of JMPR that MRL estimates cannot solely be based on automatic calculation using any currently available 'statistical' method.

20. The Delegation of Australia while commending the JMPR for the explanation and detail provided on this issue, considered that the issue of transparency was more than adequately addressed and did not require further discussion by the Committee.

21. As regards the use of a statistical calculation method, Australia is aware that a new revision of the OECD Calculator is currently being tested by regulators in OECD member countries, and will be brought to this Committee, once JMPR has had an opportunity to use it, following OECD approval.

## **2.2 The OECD guidance document on livestock feeding**

22. The Committee was informed that the JMPR agreed to use the latest available version of the OECD feed table with some modifications for indicating the Codex crop group of each commodity. The revised table has been included in the FAO Manual Second Edition and will be used by the Meeting in 2010. The detailed procedure is described in the updated FAO Manual.

## **2.3 Guidance for data submission for estimation of residue levels in/on spices**

23. The Committee noted that the monitoring residue data submitted to the JMPR for estimation of residue levels in/on spices were insufficient for evaluation in past years as the guidance given by the JMPR might have been misinterpreted.

24. In order to assist collection and submission of the appropriate information, three important principles were re-emphasized and indicated in section 2.3 of the 2009 JMPR report. Comprehensive information on data requirements is also available in the second edition of the FAO Manual (section 3.6).

## **2.4 Update of the FAO manual on the submission and evaluation of Data on pesticide residues for the estimation of maximum residue levels in food and feed**

25. The Committee was informed that the FAO Manual on the submission and evaluation of Data on pesticide residues for the estimation of maximum residue levels in food and feed has been updated recently. The second edition of the FAO Manual describes the basic principles currently applied by the FAO Panel in the evaluation of pesticide residues for recommending maximum residue levels. The Manual was published and is also available at the FAO website <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/jmpr/jmpr-docs/en/>

26. The Committee expressed its appreciation to JMPR for their work, in particular for their explanation and detail provided on how they derived the recommended MRLs, and pointed out that the work of JMPR was essential for this Committee.

**REPORT ON 2009 JMPR RESPONSES TO SPECIFIC CONCERNS RAISED BY CCPR  
(Agenda Item 4b)<sup>6</sup>**

27. The Committee noted that specific concerns raised by CCPR at its last meeting will be considered when discussing the relevant chemicals under Agenda Item 5.

**DRAFT AND PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES IN  
FOODS AND FEEDS AT STEPS 7 AND 4 (Agenda Item 5)<sup>7</sup>****CARBARYL (008)**

28. The Committee decided to recommend revocation of the temporary CXL for cherries and to withdraw the draft MRL for cherries at 20 mg/kg because there were insufficient data to support an MRL recommendation based on alternative GAP.

**FENTHION (039)**

29. The Committee noted the CXLs for cherries; citrus fruits; olive oil, virgin and olives were based on European GAPs which no longer existed.

30. The Committee agreed to retain these CXLs, awaiting the outcome of the periodic review by JMPR scheduled in 2017.

**MALATHION (049)**

31. The Committee noted of the CXLs for apples; grapes and citrus fruits were based on European GAPs which no longer existed.

32. The Committee agreed to retain these CXLs, awaiting the outcome of the periodic review by JMPR to be considered in 2014 for scheduling.

**PARAQUAT (057)**

33. The Committee decided to advance the draft MRLs for rice and rice straw and fodder (Dry) for adoption at Step 5/8 and to recommend the subsequent revocation of the CXL for rice.

34. The Committee noted the acute dietary intake concern of the EU for pulses and potatoes, and invited the EU to submit a concern form clearly outlining their concern.

**CHLORPYRIFOS-METHYL (090)**

35. The Committee decided to advance the proposed draft MRLs for chilli pepper, dry; citrus fruits; egg plant; grapes; peppers; pome fruits; potato; stone fruits; strawberry and tomato for adoption at Step 5/8 with the subsequent revocation of the associated CXLs.

36. The Committee decided to advance the proposed draft MRLs for barley (post harvest) currently at Step 3; edible offal (mammalian); eggs; meat (from mammals other than marine mammals); milk fats; milks; poultry meat; poultry, edible offal of; wheat; wheat bran, unprocessed; wheat germ; grape pomace, dry; oats and rice for adoption at Step 5. The Committee also agreed to return the draft MRL for barley at Step 7 to Step 6 awaiting the review of alternative GAP for cereal grains by the 2012 JMPR. Therefore CXLs for cattle fat; cattle meat; cattle, edible offal of; chicken fat; chicken meat and chicken, edible offal of were retained awaiting the final adoption of the corresponding commodity MRL group.

<sup>6</sup> Section 3 of the 2009 JMPR Report.

<sup>7</sup> CL 2009/33-PR; CX/PR 10/42/03; CX/PR 10/42/03-Add.1; CRD 3 (comments from China); CRD 13 (comments from Kenya); CRD 15 (comments from European Union); CRD 20 (comments from India)

37. The Committee agreed to recommend revocation of the CXLs for artichoke, globe; cabbages, head; mushroom; Chinese cabbage (type pe-tsai); common bean (pods and/or immature seeds); date; lettuce head; peach; radish; tea, green, black (black, fermented and dried); wheat flour; white bread and wholemeal bread as recommended by the 2009 JMPR.

38. The Committee agreed to withdraw the draft MRL for maize because GAP no longer was supported.

#### **METHOMYL (094)**

39. The Committee decided to advance the draft MRL for apple for the adoption at Step 8, noting the reservation of the EU on apple due to acute intake concerns.

#### **CARBOFURAN (096)**

40. The Committee decided to advance the draft MRLs for mandarin and oranges, sweet, sour (including orange-like hybrids): several cultivars for adoption at Step 8.

41. The Committee agreed to maintain the CXL for banana awaiting the 2012 JMPR evaluation of bridging study to address the acute dietary intake concerns identified by the 2009 JMPR.

#### **PHORATE (112)**

42. The Committee noted that the 2009 JMPR considered a new processing study on potatoes but the data was not sufficient to alleviate the acute intake concerns and agreed to hold the proposed MRL of 0.5 mg/kg for potatoes at Step 7 awaiting new information from the manufacturer for consideration by the 2012 JMPR.

#### **CYPERMETHRIN (INCLUDING ALPHA- AND ZETA-CYPERMETHRIN) (118)**

43. The Committee agreed to hold the proposed draft for asparagus at Step 7 awaiting data from Thailand and decided to advance all the remaining proposed draft MRLs for adoption at Step 5/8.

44. The Committee also noted that the CXLs for citrus fruits and tea, green, black were being retained under the four year rule awaiting data for evaluation by JMPR in 2011. The Committee invited the EU to submit a concern form clearly outlining their acute intake concerns.

#### **OXAMYL (126)**

45. The Committee decided to retain all the draft MRLs at Step 7 awaiting the 2012 JMPR evaluation.

#### **TRIADIMEFON (133)**

46. The Committee decided to withdraw the draft MRL and recommend revocation of the CXL for grapes due to acute intake concerns.

#### **PROCYMIDONE (136)**

47. The Committee was informed that the 2009 JMPR had considered the concerns raised by the EU regarding the ADI and ARfD for Procymidone and had confirmed their previous decisions. The EU expressed regret that no agreement could be reached on this issue.

48. The Committee noted that there was no support by the manufacturers for a periodic review and agreed to consider revocation of all CXLs at the next session.

**PROCHLORAZ (142)**

49. The Committee decided to advance the draft MRL for mushrooms at 3 mg/kg for adoption at Step 5/8 resulting from the alternative GAP evaluation by the 2009 JMPR with the subsequent revocation of the CXL of 2 mg/kg and to withdraw the draft MRL of 40 mg/kg.

**TRIAZOPHOS (143)**

50. The Committee was informed that Thailand had already submitted data for soya bean (immature seeds) to JMPR and agreed to return the draft MRL for soya bean (immature seeds) to Step 6, awaiting the outcome of 2010 JMPR evaluation.

**CARBOSULFAN (145)**

51. The Committee decided to advance the draft MRLs for mandarin and oranges, sweet, sour for adoption at Step 8.

**BENALAXYL (155)**

52. The Committee decided to advance the draft MRLs for grapes; lettuce, head; melons, except watermelon; onion, bulb; potato; tomato and watermelon for adoption at Step 5/8, and to recommend the revocation of the CXLs for chilli pepper, dry; cucumber; grapes; hops, dry; melons, except watermelon; onion, bulb; peppers, sweet (including pimento or pimienta); potato and tomato, as proposed by the 2009 JMPR.

53. The Committee was informed that EU would submit data for onion; potato and tomato to support JMPR evaluation for these commodities.

**CYFLUTHRIN/BETA-CYFLUTHRIN (157)**

54. The Committee agreed to return the draft MRL for cabbage head to Step 6 awaiting the evaluation of additional data to be submitted by Indonesia by the 2012 JMPR, and decided to withdraw the two draft MRLs for broccoli.

**TRIADIMENOL (168)**

55. The Committee decided to withdraw the draft MRL and recommend revocation of the CXL for grapes in line with the decision made for Triadimefon (133).

**BUPROFEZIN (173)**

56. The Committee decided to advance the draft MRLs of almond hulls; almonds; apple; cherries; dried grapes (=currants, raisins and sultanas); edible offal (mammalian); fruiting vegetables, cucurbits; grapes; meat (from mammals other than marine mammals); milks; nectarine; olives; peach; pear; peppers; plums (including prunes); strawberry for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

57. The Committee noted dietary intake concerns from EU regarding the proposed MRLs for peach and pear, and that additional data for coffee would be submitted by the manufacturer.

58. In response to the concern submitted by the USA as to why there was no MRL proposed for coffee, the JMPR secretariat clarified that three independent trials were not sufficient to propose an MRL for such a widely consumed commodity.

**HEXYTHIAZOX (176)**

59. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs.



60. The Committee agreed to recommend revocation of the CXLs for common bean (pods and/or immature seeds); cucumber and currant, red, white as recommended by 2009 JMPR and to retain the CXLs for hops, dry and strawberry under the four year rule, awaiting the 2011 JMPR review of data to be submitted by the manufacturer.

#### **BIFENTHRIN(178)**

61. In response to the concern of the EU, France and Croplife international who questioned the scientific validity of the published literature used by the JMPR to set an ARfD for bifenthrin, the WHO secretary of JMPR clarified that it was very clearly in the mandate of JMPR to take all relevant available information into account. The Delegation of France disagreed with the JMPR explanation.

#### **TEBUCONAZOLE (189)**

62. The Committee noted the acute intake concern expressed by the EU and decided to retain all the draft MRLs at Step 7, awaiting the outcome of the JMPR evaluation for toxicology (2010) and residues (2011).

#### **FENPYROXIMATE (193)**

63. The Committee decided to retain the draft MRL for grapes at Step 7, awaiting the outcome of the evaluation by 2010 JMPR.

#### **HALOXYFOP (194)**

64. The Committee decided to advance the draft MRLs for coffee bean; onion, bulb; stone fruits and banana for adoption at Step 5/8, as proposed by the 2009 JMPR, and recommend the subsequent revocation of the CXL for banana.

65. The Committee decided to advance the draft MRLs for beans (dry); beans, except broad bean and soya bean; chick-pea (dry); citrus fruits; cotton seed; edible offal (mammalian); eggs; fodder beet; grapes; meat (from mammals other than marine mammals); milk fats; milks; peanut fodder; peas (dry); peas (pods and succulent=immature seeds); peas, shelled (succulent seeds); pome fruits; poultry meat; poultry, edible offal of; rape seed; soya bean (dry); sugar beet and sunflower seed for adoption at Step 5 due to the intake concern expressed by the EU.

66. The Committee decided to withdraw all remaining draft MRLs at Step 4 and 7 as recommended by 2009 JMPR.

#### **FENBUCONAZOLE (197)**

67. The Committee decided to advance the draft MRLs for eggs; milks; poultry meat; poultry, edible offal of and tree nuts for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

68. The Committee decided to advance the draft MRLs for almond hulls; apple pomace, dry; blueberries; cranberry; edible offal (mammalian); meat (from mammals other than marine mammals); peanut; peanut fodder; peppers; peppers chili, dried; plums (including prunes) and pome fruits for adoption at Step 5 due to the issues raised by Australia as to whether an ARfD was needed.

69. The Committee decided to recommend revocation of the CXLs for pecan and poultry fats as recommended by 2009 JMPR.

#### **ESFENVALERATE(204)**

70. The Committee agreed to retain the draft MRLs for cotton seed; tomato and wheat at Step 7 awaiting information next year on the status of the fenvalerate phase-out.

**METHOXYFENOZIDE (209)**

71. The Committee decided to advance all proposed MRLs except for spinach for adoption at Step 5/8 with the subsequent revocation of the associated CXLs for cranberry; edible offal (mammalian); meat (from mammals other than marine mammals) and milks, and withdraw the proposed MRLs for spinach due to acute intake concerns for children.

72. The Committee noted the concern expressed by the USA that JMPR had not recommended MRLs for a number of commodities because the supporting residue data were from trials involving treatments more than 25% higher than the authorized GAP (the JMPR/OECD cut-off point) even though there were no intake risks.

73. The Committee agreed to the offer from Australia to help resolve the issue on the application of proportionality in selecting data for MRL estimation by preparing a discussion paper for consideration at the next session.

**METALAXYL-M (212)**

74. The Committee decided to retain all draft MRLs at Step 7, awaiting the outcome of the JMPR periodic re-evaluation of metalaxyl (138) for toxicology and residue in 2013.

**INDOXACARB (216)**

75. The Committee decided to advance all proposed MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs.

76. The Committee decided to request JMPR to conduct an alternative GAP evaluation for lettuce, leaf and to retain the existing CXL for this commodity in the meantime.

**BOSCALID (221)**

77. The Committee decided to advance the proposed MRL of 0.6 mg/kg for banana for adoption at Step 8 with the subsequent revocation of the associated CXL and withdraw the draft MRLs for kiwi fruit at Step 6.

78. The Committee also decided to advance all remaining proposed MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs.

79. The Committee noted the reservation of the EU regarding the proposed MRL for leafy vegetable in light of their higher MRL for lamb's lettuce. The EU agreed to submit their data for JMPR evaluation.

**ZOXAMIDE (227)**

80. The Committee decided to advance the proposed MRL for fruiting vegetables, cucurbits for adoption at Step 5/8 and to subsequently revoke the CXL for cucumber.

**PROTHIOCONAZOLE (232)**

81. The Committee decided to advance all the proposed MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs and to recommend revocation of the CXL for mammalian fats (except milk fats) as recommended by JMPR in 2009.

**FLUOPICOLIDE (235)**

82. The Committee decided to advance the MRLs for Brussels sprouts; chilli peppers, dry; dried grapes (=currants, raisins and sultanas); edible offal (mammalian); eggs; flowerhead brassicas (including broccoli; broccoli, Chinese and cauliflower); fruiting vegetables other than cucurbits; fruiting vegetables, cucurbits; grape pomace, dry; grapes; meat (from mammals other than marine

mammals); milks; onion, bulb; onion welsh; poultry meat; poultry, edible offal of and straw and fodder (dry) of cereal grains for adoption at Step 5/8.

83. The Committee also decided to advance the MRLs for cabbages, head; celery and leafy vegetables for adoption at Step 5 due to the intake concerns expressed by the EU and Switzerland. The Committee was advised that the Switzerland would submit a concern form clearly outlining their concerns over the JMPR ARfD and intake estimation.

#### **METAFLUMIZONE (236)**

84. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8.

#### **SPIRODICLOFEN (237)**

85. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8.

### **CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS (Agenda Item 6)**

#### **DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS: Bulb vegetables; Fruiting vegetables, other than cucurbits; Berries and other small fruits; Edible fungi; Citrus fruits; Pome fruits; Stone fruits; and Oilseeds (Agenda Item 6a)<sup>8</sup>**

86. The Committee recalled that its last session agreed to forward the proposed draft revision of the Codex Classification for eight commodity groups: Bulb vegetables; Fruiting vegetables, other than cucurbits; Berries and other small fruits; Edible fungi; Citrus fruits; Pome fruits; Stone fruits; and Oilseeds, for adoption at Step 5 and that the Electronic Working Group led by the Netherlands and the United States was to prepare proposals on how to address some unresolved issues in commodity groups of Fruiting vegetables, other than cucurbits, Pome fruits and Oilseeds (see also Agenda Item 6(b)).

87. The Delegation of China noted that advancing the draft would help to promote the international harmonization of trade of foods and animal feeds and speed up the process of the international harmonization of pesticide maximum residue limits and suggested that the Committee might consider the preparation of a comprehensive information card for every commodity, so as to avoid confusion caused by differences in languages and crop names. The Committee noted that this information was being developed by the International Crop Grouping Consulting Committee (ICGCC) and would shortly become available worldwide through the website.

88. The Delegation of the United States, as the co-chairperson of the Electronic Working Group informed the Committee that CRD 28 had been prepared and that this CRD incorporated all proposals submitted by Member governments in their written comments.

89. The Committee agreed to consider the revised version of the Codex Classification of Foods and Animal Feeds as presented in CRD 28 and generally agreed with all new proposals in the document.

#### **Fruiting Vegetables other than Cucurbits**

90. The Committee agreed to retain Okra (including Lady's Finger) and Roselle under the Subgroup 12B Peppers while revising the title to "Pepper and pepper-like commodities" as the Group

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<sup>8</sup> ALINORM 09/32/24, App. IX; CX/PR 10/42/4 (Not issued); CRD 3 (comments from China); CRD 12 (comments from the United States of America); CRD 13 (Comments from Kenya); CRD 18 (comments from Paraguay); CRD 19 (comments from Mali); CRD 22 (comments from South Africa); and CRD 28 (Revision of the Codex Classification of Foods and Animal Feeds: Bulb Vegetables; Fruiting Vegetables, other than Cucurbits; Berries and other Small Fruits; Edible Fungi; Citrus Fruits; Pome Fruits; Stone Fruits; and Oilseeds as revised by the Working Group).

also covered commodities other than peppers. It was noted that these commodities were minor crops and therefore, it would be unlikely that residue data would be generated for any individual commodity if they were placed in a separate subgroup. It was further noted that data available for okra in relation to applied GAPs and residues demonstrated that this commodity could be accommodated under the Subgroup 12B.

91. The Committee also agreed to retain Pepino and Tree melon under the Subgroup 12C Egg Plants and revised the title to “Egg plants and egg plant-like commodities” as the Group also covered commodities other than egg plants.

92. At the request of South Africa, the Committee agreed to include Piquant peppers (*Capsicum baccatum var piquanté*) in Subgroup 12B as it was different than other peppers in the group.

### **Pome Fruits**

93. The Committee agreed to retain Azarole, Mayhaw and Tejocote under the Group 002 Pome Fruits.

### **Oil seeds**

94. The Committee agreed to retain Linseed, Poppy seed and Sesame seed under the Subgroup 023A while changing the name to the Sub Group to “Small seed oilseeds”.

### **Olives**

95. The Committee agreed to add a new commodity “SO 0305 Olives for oil production” in the Subgroup 023E Oilfruits and to add to the commodity FT 0305 the word “Table” before olives i.e. FT 0305 Table olives.

### **Status of draft the draft revision of the Codex Classification of Foods and Animal Feeds**

96. The Committee agreed to retain the eight commodity groups namely Bulb vegetables; Fruiting vegetables, other than cucurbits; Berries and small fruits; Edible fungi; Citrus fruits; Pome fruits; Stone fruits; and Oilseeds at Step 7, as amended during the session, awaiting finalization of the revision of the Classification in compliance with its previous decision<sup>9</sup> that the revised individual commodity groups should not be adopted until all the revision had been completed in order to avoid problems, especially with the transfer of commodities from one group to the other (see Appendix IX).

### **DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS: Unresolved issues in commodity groups of Fruiting vegetables other than cucurbits, Pome fruits, and Oilseeds (Agenda Item 6b)<sup>10</sup>**

97. The Committee considered the proposals presented in the document prepared by the Electronic Working Group led by the Netherlands and the United States of America for the resolution of certain unresolved issues arising from the discussion on the commodity groups for Fruiting vegetables other than cucurbits, Pome fruits, and Oilseeds that took place at the last session of the Committee<sup>11</sup> and took decisions proposed in the document as presented under Agenda Item 6(a).

<sup>9</sup> ALINORM 07/31/24 para 150.

<sup>10</sup> CX/PR 10/42/5; CRD 13 (comments from Kenya); CRD 14 (comments from Thailand); and CRD 19 (Comments from Mali).

<sup>11</sup> ALINORM 09/32/24 paras 140, 141, 143 and 145.

**PROPOSED DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS: Tree Nuts, Herbs and Spices (Agenda Item 6c)<sup>12</sup>**

98. The Committee considered the additional commodity groups Tree Nuts, Herbs and Spices within the framework of the overall revision of the Codex Classification of Foods and Animal Feeds. In this regard, the Committee agreed to consider a revised version of working document CX/PR 10/42/6 as prepared by the Electronic Working Group led by the Netherlands and the United States of America and presented in CRD 29 which incorporated all comments submitted to the present session of the Committee.

**Tree Nuts**

99. The Committee agreed to add Betel nuts in this Group.

**Herbs**

100. The Committee agreed to include: Phak ka yaeng (*Limnophila aromatica* Merr.), Phak paew (*Trichodesma indicum*), Covern fern (*Marsilea crenata* Prerl.) and Wild betle leaf bush (*Piper sarmentosum*) to subgroup 27A and to include the proposals made by Australia (CRD 17) relevant to Group 027 in square brackets.

**Spices**

101. The Committee agreed to insert the scientific name *Cucurma mangga* for commodity HH 0794 Turmeric, root under Subgroup 028D. The Committee also agreed to add a new Subgroup 028H Fruit Peels in square brackets include Citrus fruit peel under this new category. It was noted that this product was commonly traded as a spice within China and Japan and that residue levels in this type of commodity were usually higher than the levels in the corresponding citrus fruit. In addition, the Committee agreed to include in square brackets all proposals relevant to Group 028 as presented by the Delegation of Australia in CRD 17.

**Other matters**

102. The Delegation of the United States of America highlighted the importance of the early completion of the revision of the Classification so that the revised commodity groups could be implemented in international trade as soon as possible. This would assist in promoting MRL/PRs harmonization and in removing technical barriers to trade.

103. In this regard, the Delegation indicated that although the Committee had agreed at the beginning of the revision process that revised individual commodity groups should not be adopted until all the revisions had been completed<sup>13</sup>, after the resolution of the coding issues at the last session of the Committee<sup>14</sup>, it might now be possible to advance all commodity groups within a particular commodity type as they are completed. In particular the fruit types: berries and small fruits, citrus fruit, pome fruit and stone fruit, which had been completed by this session of the Committee, and the tropical fruits that could be completed by the next session of the Committee could all be advanced together.

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<sup>12</sup> CX/PR 10/42/6; CX/PR 10/42/6-Add.1 (comments from Canada, Cuba, Guatemala, Japan, CIAA, INC and IOSTA); CRD 12 (comments from the USA); CRD 13 (comments from Kenya); CRD 14 (comments from Thailand); CRD 17 (comments from Australia); CRD 25 (comments from Korea); CRD 29 (Revision of the Codex Classification of Foods and Animal Feeds: Tree Nuts, Herbs and Spices as revised by the Working Group).

<sup>13</sup> ALINORM 07/30/24, para 150.

<sup>14</sup> ALINORM 09/32/24, paras 133-134.

104. In view of the above, the Committee agreed that if all of the fruit types were completed by 2012, consideration would be given to advancing them to Step 8, for inclusion in the classification system.

#### **Status of the proposed draft revision of the Codex Classification of Foods and Animal Feeds**

105. The Committee agreed to forward the proposed draft revision of the Codex Classification of Foods and Animal Feeds for the 3 commodity groups, i.e. Tree Nuts, Herbs and Spices, to the Codex Alimentarius Commission for adoption at Step 5 (Appendix X).

106. The Committee further agreed to re-establish the Electronic Working Group led by the Netherlands and the United States of America, working in English only, to prepare new draft proposals for Assorted tropical and sub-tropical fruits-edible peel (Group 005), Assorted tropical and sub-tropical fruits-inedible peel (Group 006), Leafy vegetables (including Brassica leafy vegetables) (Group 013) and Brassica (cole or cabbage) vegetables, cabbage, Head and Flowerhead cabbages (Group 010) according to the schedule<sup>15</sup> agreed to by the Committee.

#### **PROPOSED DRAFT PRINCIPLES AND GUIDANCE FOR THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MRLS TO COMMODITY GROUPS (Agenda Item 6d)<sup>16</sup>**

107. The Committee recalled that at its 41<sup>st</sup> Session it had agreed that principles and guidance on the selection of representative crops for the extrapolation of MRLs to commodity groups should be redrafted by the Electronic Working Group led by the United States of America.

108. The Delegation of the United States of America, as the chairperson of the Electronic Working Group, briefly introduced the structure of document CX/PR 10/42/7 and highlighted the main issues addressed in the document.

109. Some Delegations noted that the Committee should concentrate on development of the principles and guidance and that each country could select representative commodities in accordance with these principles and guidance and to provide this information to the Committee as the basis for their inclusion as alternative representative commodities at the international level.

110. The Committee decided to consider the section outlining the principles and procedures on the guidance of the selection of representative commodities for extrapolation of MRLs to commodity groups separately from the specific tables for each commodity group.

111. After making an editorial amendment to the Section on Good Agricultural Practice, the Committee agreed with the text proposed in the document.

112. The Committee noted that the EU proposal regarding wider extrapolations beyond the members of a commodity group could be possible on a case-by-case basis and agreed that to accommodate this proposal additional work should be done on Table 1. Therefore it agreed to put all Table 1 in square brackets for further consideration at the next session.

113. The Delegation of the United States of America noted that it would be most efficient to concentrate on the proposals for the “Fruit Types” in order for these to be completed when the revision to the classification for “Fruit Types” is completed since having the revision to the classification without the guidance on the selection of representative commodities is of limited usefulness.

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<sup>15</sup> ALINORM 07/30/24, para 146.

<sup>16</sup> CX/PR 10/42/7; CX/PR 10/42/7-Add.1 (not issued); CRD 10 (comments from Canada); CRD 13 (comments from Kenya); CRD 14 (comments from Thailand); CRD17 (comments from Australia) and CRD 30 (comments from the European Union).

114. The Committee also noted that additional work was needed on Addenda I and II, therefore it agreed that they should be developed separately from the principles and procedures.

115. The Committee agreed to ask the 2010 JMPR for their opinion on the text on the proposed principles and guidance on the selection of representative crops for the extrapolation of MRLs to commodity groups.

**Status of the Draft Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of MRLs to Commodity Group**

116. The Committee agreed to forward the revised text on the draft principles and guidance on the selection of representative commodities for the extrapolation of MRLs to commodity groups to the 33<sup>rd</sup> session of the Commission for adoption at Step 5 (see Appendix XI).

117. The Committee agreed to return Addendum I containing detailed justification on bulb vegetables and fruiting vegetables, other than cucurbits and Addendum II containing background information regarding representative commodities to Step 2 for revision.

118. The Committee agreed to re-establish EWG led by the Netherlands and the United States of America, working in English only to prepare proposals for amendments in Table 1 and to revise Addenda I and II based on comments received at the current session for circulation at Step 3 and consideration by the next session of the Committee.

**PROPOSED DRAFT REVISION OF THE GUIDELINES ON THE ESTIMATION OF UNCERTAINTY OF RESULTS FOR THE DETERMINATION OF PESTICIDE RESIDUES (Agenda Item 7(a) )<sup>17</sup>**

119. The Committee recalled that its last session agreed to return the proposed draft Guidelines for revision by the Electronic Working Group for consideration by this session of the Committee.

120. The Delegation of Australia, as the Chair of the in-session Working Group on Methods of Analysis, introduced CRD 32 which contained a revised version of the Guidelines on the estimation of uncertainty of results for the determination of pesticide residues, and pointed out that 50 experts from 25 member countries participated in the work of the in-session Working Group. The Chairperson indicated that further work on resolving some content issues and consideration of the inclusion of some additional calculation examples were needed.

121. The Chair of the Working Group acknowledged the invaluable assistance provided by the rapporteurs Ms Donna Grant from Canada and Dr Robert Epstein from the United States as well as the support provided by the co-chair Dr Canping Pan from China. It is further appropriate to acknowledge the considerable work by the previous chair Dr Josef Brodesser in processing the draft document to its current status.

122. The Committee expressed its appreciation to the Working Group for its work and generally agreed with the proposal of the Working Group.

**Status of the proposed draft revision of the guidelines on the estimation of uncertainty of results for the determination of pesticide residues**

123. The Committee agreed to return the revised draft Guidelines to Step 3 for comments and consideration by an Electronic Working Group chaired by Australia and co-chaired by China, open to

<sup>17</sup> ALINORM 09/32/24, Appendix X; CX/PR 10/42/8-Add.1; CRD 3 (Comments of China); CRD 6 (Comments of New Zealand); CRD 7 (Comments of Argentina); CRD 11 (Information from CCMAS); CRD 13 (Comment from Kenya); CRD 18 (Comments of Paraguay); CRD 19 (Comments of Mali); CRD 24 (Document for consideration at the Working Group); CRD 32 (Prepared by in-session Working Group)

all Codex Members and Observers and working in English only, which would prepare a revised version for consideration by the next session of the Committee (Appendix XIII).

**DISCUSSION PAPER ON THE USE OF  $K_{ow}$  (*n*-OCTANOL-WATER PARTITION COEFFICIENT) FOR THE ESTIMATION OF PROCESSING FACTORS IN PRIMARY PROCESSED FOODS (Agenda Item 7(b) )**

124. The Committee noted that the document was not prepared and decided to discontinue the consideration of this matter.

**DISCUSSION PAPER ON THE EXTRANEEOUS MAXIMUM RESIDUE LIMITS FOR PERSISTENT ORGANIC POLLUTANTS (POPs) FALLING WITHIN THE STOCKHOLM CONVENTION AND THE TERMS OF REFERENCE OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES (Agenda Item 8)<sup>18</sup>**

125. The Committee recalled that at its last session it agreed to request monitoring data, including methods of analysis, for POPs which fell under the Stockholm Convention and within the mandate of CCPR not only for commodities for which Codex EMRLs were established but also for other foods. The Committee noted that this information had been compiled and summarised by an Electronic Working Group led by India and co-chaired by Australia and New Zealand.

126. The Delegation of India introduced the discussion paper containing the summary information and including recommendations on how to address the issues identified by the Working Group.

127. In this regard, the Delegation advised that the data presented did not allow any conclusion as to which residues were a result of continuing use of these chemicals (which is the concern of the Stockholm Convention) and which residues were a result of transfer from historical environmental levels in soil. The monitoring data also indicated that significant residues can still be expected in some commodities as a result of this historical use. There may be a need to keep the extraneous maximum residue limits for pesticides (EMRLs) to accommodate residues that are still occurring in some commodities and to also set new EMRLs for certain other commodities in order to facilitate their trade. The current CXLs for Lindane may also need to be replaced by EMRLs as a result of the recent proposed listing of this compound as a POP.

128. The Delegation of India noted that monitoring data submitted in response to CL 2009/18-PR indicated that there was unlikely to be a dietary intake concern from the presence of these residues in food.

129. The Joint FAO/WHO JMPR Secretariat commented that because these EMRLs had not been re-assessed by JMPR for a long time, such a statement could not be supported by the Joint FAO/WHO JMPR Secretariats.

130. The Committee then considered the recommendations proposed by the Working Group.

**Existing EMRLs**

131. The Committee agreed that, for the time being, no revision was necessary on existing EMRLs for POPs.

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<sup>18</sup> CX/PR 10/42/10; CRD 3 (Comments from China); CRD 8 (Comments from Mongolia); CRD 18 (Comments from Paraguay); CRD 19 (Comments from Mali); CRD 27 (Comments from Crop Life International); and CRD 31 (Comments from the European Union).



**New EMRLs**

132. The Committee agreed that there may be a need to set EMRLs for food items traded at the international level for which residue limits had not yet been established. In view of this, the Committee invited Codex members to submit proposals for new EMRLs to the chair of the EWG on priorities and when appropriate submit the available monitoring data to JMPR.

**Lindane MRLs**

133. The Committee noted that this compound had been re-evaluated by JMPR in 2002 (for toxicological) and 2003 (for residues) and that, in compliance with the 15 year rule for periodic review, it should be eligible for re-evaluation in 2017/18. Some Delegations indicated that they could provide monitoring data on Lindane. The Committee discussed the possible replacement of the existing Lindane CXLs with EMRLs and the Committee agreed to consider the status of these Codex CXLs for Lindane at the next Session of the Committee.

**DISCUSSION PAPER ON THE CALCULATION METHOD FOR THE ESTIMATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES BEING DEVELOPED THROUGH THE OECD (Agenda Item 9)<sup>19</sup>**

134. The Committee recalled that its 41<sup>st</sup> Session it was agreed to send a circular letter containing a questionnaire to all Codex Members in order to have more inclusiveness in the development of the OECD calculator and that replies to this questionnaire would be evaluated by an Electronic Working Group in order to prepare a paper for consideration by the next session of the Committee.

135. The Delegation of the United States, as the chair of the Electronic Working Group, informed the Committee that as the result of the input received, as well as the continuing work of the calculator group, the approach of the calculator group had substantially changed. Details of the new approach used in the OECD calculator were released only at the beginning of April and the approach will be discussed at the OECD for the first time in May. Because replies to the questionnaire were not directly applicable to evaluating the new approach, they were not discussed in detail, but were provided in the materials prepared for the meeting.

136. The Committee considered how to proceed further with regard to the OECD calculator.

137. In response to the recommendation made by Electronic Working Group to request that the OECD involves the JMPR and CCPR in the review and testing process, the FAO JMPR Secretariat clarified that the JMPR was continually striving for the development and utilization of a statistical calculation method and that JMPR experts actively took part in the development of relevant OECD Guidelines, including the calculation method.

138. After some discussion, the Committee agreed that, if the OECD requests any input on further developments of the calculator from the Member countries of the Codex, the Codex Secretariat would circulate this request to all Codex Member countries. Comments would be submitted to the United States with a copy to the Codex Secretariat. Further actions of the CCPR on the OECD calculator would be determined at a later stage when the final version of the calculator becomes available.

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<sup>19</sup> CX/PR 10/42/11, CRD 3 (Comments of China), CRD 18 (Comments of Paraguay), CRD 19 (Comments of Mali).

**REVISION OF THE RISK ANALYSIS PRINCIPLES APPLIED BY THE CODEX COMMITTEE ON PESTICIDE RESIDUES (Agenda Item 10)<sup>20</sup>**

139. The Committee recalled that at its 41<sup>st</sup> Session it established an Electronic Working Group led by Argentina to revise the Risk Analysis Principles Applied by the Committee on Pesticide Residues for consideration by the current session of the Committee and that the revised principles would be considered by the Codex Committee on General Principles.

140. The Delegation of Argentina, speaking as the chair of the Working Group, introduced the document and highlighted the process used, changes in structure and amendments made by the Electronic Working Group in the revision of the document. The Delegation pointed out that agreement of the Committee should be reached on the content of the document and that the proposals on a new structure could be considered at a later stage.

**General comments**

141. The Delegation of Spain speaking on behalf of the EU (para. 6) indicated that the EU had a general reservation on all the text of the document. The Delegation stressed the need to keep the Periodic Evaluation Procedure, as it was the only way of reassessing new data, after 15 years, to confirm that the CXLs were still acceptable and that if the periodic evaluation is abolished and the CXLs are maintained, there would never be pressure for third parties to submit data showing that the CXLs are still acceptable. The Delegation emphasized that the EU could support retaining these CXLs if the product is not posing a risk for public health according to the most recent available scientific information.

142. Many Delegations supported the work done by the Working Group on the revision of the document, confirmed the decision of the last session of the Committee to retain the periodic re-evaluation procedure and proposed that revocation of MRLs should not be done without a scientific basis to guarantee the concordance of the Risk Analysis Principles Applied by the CCPR with the document of Working Principles for Risk Analysis for Application in the framework of the Codex Alimentarius, General Principles of the Codex and other Codex Standards.

143. Some Delegations indicated that there was a need to ensure consistency of the CCPR risk analysis document with the Codex General Principles for Risk Analysis as indicated in the Codex Strategic Plan.

144. The Committee initially decided to consider the document section by section and made some mainly editorial changes in the first part of the document.

145. However it became clear that it would be more beneficial to concentrate on the most important areas of concern.

146. A number of countries emphasized that there was a need to retain the 15 year periodic review procedure in order to ensure the continued robustness of the Codex MRL setting process and the continued safety of CXLs .

147. The JMPR joint Secretariat indicated that since the use conditions of the compounds may change with time, older existing Codex MRLs may not reflect current use patterns (GAPs) and that some of the old toxicological studies and residue trials may not meet contemporary standards.

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<sup>20</sup> CX/PR 10/42/12; CX/PR 10/42/12-Add.1 (Comments from Brazil, Canada, New Zealand, Argentina, Cuba and Guatemala); CRD 3 (comments from China); CRD 4 (comments from JMPR); CRD 9 (comments from Japan); CRD 13 (comments from Kenya); CRD 14 (comments from Thailand); CRD 18 (comments from Paraguay); CRD 19 (comments from Mali); CRD 20 (comments from India); CRD 34 (comments from the European Union); CRD 37 (comments from Chile) and CRD 38 (comments from the European Union).

148. . The JMPR secretariat indicated that data requirement for specific scenarios arising from periodic re-evaluation process needed specific guidance. The JMPR secretariat believed that FAO manual for data requirements would require revision accordingly, if such a specific guidance for the periodic re-evaluation is available.

149. After an extensive discussion on this and related issues, the Committee recognized that because of the complexity of the issues and the interrelationships between various parts of the document much more work was needed to accomplish the revision of the document.

150. The Committee agreed to return the Risk Analysis Principles Applied by the Committee on Pesticide Residues for redrafting by the Electronic Working Group, led by Argentina and working in English and Spanish. The Committee agreed that the Electronic Working Group should revise the document taking into account written comments submitted, consideration of this matter in the last session of the Codex Committee on General Principles, and the comments made at the current session of the Committee.

151. In preparation for the next meeting, the EWG should clearly identify issues of concern across the document on which agreement cannot be reached by the EWG and prepare proposals on how to approach and resolve these issues in order to facilitate consideration of the document.

152. The revised version would be circulated for comments and consideration by the next session of the Committee.

**DISCUSSION PAPER ON THE GUIDANCE TO FACILITATE THE ESTABLISHMENT OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES FOR MINOR USE AND SPECIALTY CROPS (Agenda Item 11)<sup>21</sup>**

153. The Committee recalled that at its last session it agreed to re-establish the Electronic Working Group on Minor Uses and Specialty Crops, chaired by the United States of America and co-chaired by Australia and Kenya, which would continue to identify and address issues related to minor uses and specialty crops within the mandate of CCPR; would further elaborate the definitions of minor use and specialty crops for use by CCPR and JMPR; and would identify priority minor uses and specialty crops for MRL setting and facilitate data submissions to JMPR.

154. The Delegation of Kenya introduced the paper highlighting the main outcomes of the document. In this regard, the Delegation informed the Committee of priority minor uses and specialty crops that had been or would be proposed for inclusion in the Priority List for JMPR evaluation, and outlined a number of recommendations directed to CCPR and/or JMPR to facilitate and improve the MRL setting process for minor uses.

155. Delegations expressed their support for continuing work in this area, in particular, further discussion on the definitions of minor uses and specialty crops and the co-ordination of data submissions for priority chemical/commodities to JMPR for MRL setting. In addition, the importance of the completion of the *Guidance and Principles on the Selection of Representative Commodities for the Extrapolation of MRLs to Commodity Groups* and the revision of the *Classification of Foods and Feeds* with the inclusion of minor crops was also highlighted. Several Delegations stressed the importance of exploring mechanisms to assist multiple countries working collaboratively to develop data to support the establishment of MRLs on a minor crop including the possibility to bundling data/labels available from different countries for submission by one lead country.

156. The Delegation of Spain, speaking on behalf of the EU (para. 6), indicated that they supported most of the recommendations. The Delegation suggested that when considering definitions for minor

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<sup>21</sup> CX/PR 10/42/13, CRD 3 (comments from China); CRD 14 (comments from Thailand); CRD 16 (comments from Crop Life International); CRD 19 (comments from Mali); CRD 23 (comments from Australia and the OECD); and CRD 33 (comments from the European Union).

crops, the working group should take into account the information available in the EU Regulation 1107/2009. The Delegation felt that more targeted information and guidance was required in defining minor uses with respect to residue chemistry, trade, and dietary consumption.

157. The FAO JMPR Secretariat, in addressing the recommendations directed to JMPR explained that:

- Estimation of MRLs requires both residue data and an officially approved use-pattern for the chemical/crop combinations. Considering the diversity of approval systems in operation across the world, if necessary, the JMPR can consider an official letter covering the full requirements of GAP in place of a label.
- JMPR considers all available data provided by countries and these data do not need to originate from the country making the submission. It is the responsibility of the country submitting the data to ensure they have received appropriate authority to submit data generated by other countries.
- Acceptance of data from multiple countries is already a common practice within JMPR including combining residue trials conducted in different countries where the use-patterns of the trials match the critical GAP being evaluated.
- It is difficult for JMPR to provide guidance on when 3 trials might be accepted for a minor use, since there is no international agreement on the definition of minor use not on data requirements for minor uses.

158. The Committee endorsed the following recommendations presented by the Working Group:

159. The Committee endorsed the recommendations to encourage Codex members and observers to continue to identify and nominate chemical/uses on minor crops to the Working Group on Priorities and to submit data for JMPR evaluation including the possibility for multiple countries working collaboratively to develop data to support the establishment of MRLs on minor crops and the bundling of such data to be presented by one lead country for JMPR evaluation and with an understanding that an official letter should cover all information on the registered GAPs.

160. Noting that acceptance of data from multiple countries is already a common JMPR practice, the Committee endorsed the recommendations to JMPR, that bundling of data is possible provided the data were on the same compound/commodity and match the critical GAP and that an official letter would be acceptable if labels were not available.

161. The Committee did not endorse the recommendation for guidance on the number of residue data trials necessary to perform the evaluation noting the FAO JMPR Secretariat's observation that there was not yet an agreed international definition of minor uses nor any agreed upon data requirements for minor uses.

162. The Committee endorsed the recommendation that CCPR should continue to progress the work on inclusion of new commodities in the *Classification of Foods and Feeds* and for the suitable implementation of the *Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of MRLs to Commodity Groups* in order to facilitate establishment of MRLs for minor uses.

163. The Committee agreed to re-establish the Electronic Working Group on Minor Crops and Specialty Crops, under the chairmanship of the United States of America and co-chaired by Australia and Kenya, working in English only, to continue to identify priority minor uses and specialty crops for MRL setting, and to facilitate data submissions to JMPR, and to prepare proposals for definitions of minor use and specialty crops for use by CCPR and JMPR.

**ESTABLISHMENT OF CODEX PRIORITY LISTS OF PESTICIDES (Agenda Item 12)<sup>22</sup>**

164. The report of the Electronic Working Group on Priorities was introduced by its chair, Mr Ian Reichstein (Australia). He thanked member countries and observers for their participation in the EWG noting that the number of nominations for new chemicals and additional commodities had increased significantly from previous years.

165. The Chair re-emphasised that the 2010 schedule was closed following the 41<sup>st</sup> session of CCPR in accordance with the decision taken at that meeting, however, the FAO JMPR Secretary confirmed that, in order to support the work of EWG on Minor Uses, it was acceptable to add a few commodities to chemicals already scheduled in 2010.

166. The Chair indicated that Kenya, on behalf of the COLEACP Pesticide Initiative Programme had requested the addition of a range of commodities for chemicals listed in 2010, 2011 and 2012. The Chair noted that following discussions on the 2011 schedule at this meeting, the 2011 schedule would be closed for the addition of new chemicals.

**Scheduling of chemicals**

167. The Committee was informed that fifteen new chemicals had been nominated for inclusion on the tentative schedules for 2011 (10) and 2012 (5). The Chair listed the ten chemicals scheduled for 2011 new chemical evaluations (sulfoxaflor, MCPA, emamectin-benzoate, chlorfenapyr, isopyrazam, saflufenacil, propylene oxide, flutriafol, acetamiprid and penthiopyrad), and the chemicals listed for periodic re-evaluation (etofenprox, dicofol and tebuconazole).

168. The Committee was informed that the twelve to thirteen chemicals nominated for the 2011 schedule for new chemical evaluation and periodic re-evaluation was in excess of the preferred ten, which is viewed as acceptable given to current JMPR resources.

169. The Committee was informed that the rescheduling of five chemicals to the 2012 schedule to alleviate the JMPR workload in 2011 was a short-term solution, to the problem of excess demand for JMPR resources.

170. The Committee was invited to provide comments on the ongoing issue of insufficient JMPR resources to and provide a longer term solution. The Committee noted that there were three issues of concern: funding, the availability of expertise, and the timing / frequency of JMPR meetings and considered how to address these issues. Different options were discussed such as resurrecting the initiative on 'Friends of the JMPR' to identify sources for increased funding organizing two JMPR meetings per year, and increasing the number of experts at the JMPR meetings.

171. The FAO JMPR Secretary informed the Committee that FAO and WHO launched the Global Initiative for Food-Related Scientific Advice (GIFSA) in 2007. The main focus of GIFSA was to establish a mechanism to facilitate the provision of extrabudgetary resources for scientific advice activities. Contributions will be accepted from governments, organizations and foundations in accordance with FAO and WHO rules and can be designated for a specific purpose, such as for the JMPR. More information about GIFSA is available at the following websites of FAO:

[http://www.fao.org/ag/agn/agns/advice\\_en.asp](http://www.fao.org/ag/agn/agns/advice_en.asp)

and WHO: <http://www.who.int/foodsafety/codex/Gifsa.pdf>.

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<sup>22</sup> CX/PR 10/42/14-Rev., CX/PR 10/42/14-Add.1, CRD 1 (Prepared by Australia), CRD 4 (comments by JMPR Secretariat), CRD 15 (Comment from Kenya), CRD 19 (comments from Mali), CRD21 (comments from the European Community).

172. After some discussion the Committee agreed that the Delegation of the USA with assistance from Cameroon and Croplife will prepare a discussion paper on how to address JMPR resource issues for consideration by the next session of the Committee.

173. The Committee was informed that all five chemicals listed in the 2012 new chemical schedule as priority one (dinotefuran, cyantraniliprole, ametoctradin, fluxapyroxad and clopyralid) had been rescheduled from the 2011 new chemical schedule and that the nomination of ethaboxam was no longer supported and had been deleted from the 2012 schedule. Noting that there are at least seven chemicals listed for periodic re-evaluation in 2012, the committee was advised that the 2012 schedule had already reached its quota and technically could not accept any further nominations.

#### **Periodic Re-Evaluations**

174. Following the annual review of the CCPR chemical list to identify chemicals subject to the fifteen year rule for periodic re-evaluations, four chemicals (fenarimol, fenpyroximate, fenthion and quintozene) were listed on the tentative schedule for periodic re-evaluation for 2017.

175. The Committee noted the chemicals listed for periodic re-evaluation for the years 2011 to 2017.

#### **Periodic Re-Evaluations – Chemicals No Longer Supported**

176. Noting the concerns raised in the Risk Analysis Principles discussion, the EWG Chair highlighted several chemicals, listed on the periodic re-evaluation schedule, which are no longer supported by the manufacturer. These chemicals are listed in bold text to highlight their status to member countries.

177. The manufacturer advised that dicofol was no longer supported. However, India indicated that a data package including residue data supporting tea would be submitted but was advised by JMPR that a toxicology data package was also required.

178. The following chemicals were noted as having no manufacturer support: vinclozolin (159), tecnazene (115), dichlofluanid (82), dinocap (87), methidathion (51), bioresmethrin (93), bromopropylate (70), bromide ion (47), hydrogen phosphide (46), phosalone (60), azinphos-methyl (02) and permethrin (120).

179. Although the manufacturer has indicated no support for metalaxyl (138), Thailand has indicated that it will provide field trials in support of several commodities. In regard to metalaxyl(138), fenvalerate (119) and disulfoton (74), the USA agreed that rather than list these only as not supported, the table entry should also say 'Reviews are available from the USA', and advised the Committee that reviews may also be available for other compounds.

180. The Chair indicated that the work of the EWG for 2011 would commence in August with the broadcast email to all member countries and observers. In that correspondence, the Chair will highlight chemicals for which there is no manufacturer support and chemicals for which commodity listings are required.

#### **Evaluations**

181. The Committee noted listings of follow-up evaluations for the 2011 and 2012 schedules.

182. The Committee noted the significant work of the Pesticide Initiative Programme which has resulted in nominations of additional commodities for eighteen pesticides. However, it also noted that there are existing CXLs for lambda-cyhalothrin on okra as presented in fruiting vegetable, other than cucurbits and mango.

**JMPR revised timeframes**

183. The Committee noted that from 2010 onwards JMPR will move the deadline for the Data Directory submission for residue data from 1 September to 30 October which is after the JMPR Call for Data has been issued. Accordingly, the full submission of all residue data is postponed from its current deadline of 30 November to 20 December which is the same as the timeline for submission of toxicological data.

**Format of the Schedule – Priority Lists of Pesticides Tables*****Naming of manufacturers in the list of priorities***

184. To the concern expressed by the Codex secretariat about including manufacturers names in the List of Priorities, many Delegations and observers indicated that identification of the manufacturers improved transparency and significantly facilitated communication, therefore, the Committee should identify all stakeholders responsible for the support of compounds.

185. After some discussion, the Committee agreed to include the names of manufactures in the Priority List of Chemicals Scheduled for Evaluation and Re-Evaluation by JMPR.

**Conclusions**

186. The Priority List of Chemicals Scheduled for Evaluation and Re-Evaluation by JMPR as amended during the session is presented in Appendix XII.

**ANALYSIS OF THE REFERENCES TO PESTICIDE RESIDUES IN CODEX STAN 229-1993 AND VARIOUS SECTIONS OF VOLUME 2 OF THE CODEX ALIMENTARIUS (Agenda Item 13)<sup>23</sup>**

187. The Committee noted that this paper was prepared by the Codex Secretariat at the request of the last session of the Committee to address references to Volume 2 of the Codex Alimentarius, which is no longer printed, and other inconsistencies in a number of documents developed by CCPR.

188. The Committee agreed to introduce the updated references in the relevant documents for pesticide residues as proposed by the Secretariat in the Annex to CX/PR 10/42/15.

189. In addition, two other matters were considered in regard to methods of analysis for pesticide residues as indicated below.

***Portion of Commodities to which Codex MRLs apply and which is analyzed (CAC/GL 41-1993)***

190. The Committee considered whether the *Guidelines on the Portion of Commodities to which Codex MRLs apply and which is analyzed* should be kept as a stand-alone document or should be integrated in other more relevant documents that also contain information on the edible portion of the commodity to which the pesticide residue apply. The Committee agreed that, for the time being, the Guidelines should be retained as a single document and that this question be revisited upon completion of the revision of the *Classification of Foods and Feeds*.

***List of methods of analysis for pesticide residues***

191. The Committee recalled its previous decision not to maintain a list of analytical methods for pesticide residues but to keep existing validated methods on the IAEA website.

192. The Secretariat drew the attention of the Committee to the need to clearly define the status of the list in order to avoid confusion in relation to the enforcement of MRLs for pesticide residues.

<sup>23</sup> CX/PR 10/42/15, CRD 18 (Comments of Paraguay), CRD 35 (Comments of member states of the European Union)

193. The Representative of IAEA recalled that the purpose of maintaining such a list was to provide a platform for comments and sharing experience regarding the methods but that the list should be considered as a resource list and was never meant to be a list of preferred or obligatory methods for Codex purposes.

194. In view of the above considerations, the Committee agreed to invite the working group on method of analysis to prepare a discussion paper for the next session, addressing the issues raised in CX/PR 10/42/15 in relation to the status of the repository list of analytical methods and to discuss the implications of maintaining the list as either a resource list or as preferred/obligatory methods.

#### **ACHIEVING GLOBALLY HARMONIZED MRLS THROUGH CODEX (Agenda Item 13a)<sup>24</sup>**

195. The Delegation of the USA recalled that the paper “Achieving Globally Harmonized MRLs Through Codex” had been extensively considered at the last session of the Committee and that this paper proposed a pilot process in which JMPR would conduct an independent, parallel review along with a global joint review team and recommend MRLs before national governments or other regional registration authorities establish MRLs. The Delegation indicated that a paper had been prepared responding to the concerns that were raised at the last meeting and proposing to conduct a pilot project on sulfoxaflor in 2011. The Delegation presented CRD 26 containing a Project plan for consideration as new work for this Committee.

196. The Delegation of Spain speaking on behalf of the EU (para. 6) indicated that the EU was very much in favour of global harmonisation of MRLs and, therefore, applied administrative procedures to incorporate Codex MRLs into EU legislation, provided that these were safe for all EU consumer groups. The Delegation indicated that if a pilot project were launched with a new active substance the outcome should be thoroughly evaluated and should not act as a precedent for other future projects and before thorough evaluation is done, no changes should be made to the Procedural Manual.

197. The Delegation pointed out that the evaluation of the results this project must be compared to other work sharing projects without participation of JMPR (e.g. fluopyram, chlorantriliprole), in particular attention should be paid to:

- (1) The speed by which MRLs are set at Codex and in the member countries,
- (2) The level of MRL harmonisation achieved at the final stage of the project, when all member countries have set national MRLs,
- (3) The amount of duplication of work (e.g. when the risk assessment has to be redone or the residues re-evaluated),
- (4) The burden on the budget of JMPR,
- (5) The benefits for developing countries and minor uses.

198. Also the possibility should be considered that the pilot would only be done on the toxicology review and not the residues.

199. In reply to this intervention, the Delegation of the United States indicated that the items proposed for inclusion in the evaluation of the results of the pilot would be included.

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<sup>24</sup> CX/PR 10/42/16; CRD 26 (Project document prepared by the United States of America); CRD 36 (Comments from European Community).



200. Many Delegations supported the proposal to initiate the pilot project noting that concerns raised previously were addressed and that harmonization of MRLs was one of the main tasks of Codex.

201. After some discussion the Committee decided to request the 33<sup>rd</sup> session of the Commission to allow initiating the pilot project in which JMPR would conduct an independent, parallel review along with a global joint review team and recommend MRLs before national governments or other regional registration authorities establish MRLs on sulfoxaflor in 2011.

202. The Committee noted that CRD 26 contained the basic information required for critical review by the Executive Committee to start new work, however some information was still missing and the format was not in line with Part 2. Critical Review of the Procedures for the Elaboration of Codex Standards and Related Texts presented in the Codex Procedural Manual, therefore it was requested that the Delegation of the United States revise it in compliance with the above requirements and send it to the Secretariat by May 15 2010.

## **OTHER MATTERS**

### **GEMS Food database**

203. On behalf of WHO, the FAO JMPR Secretary informed the Committee that WHO has identified the need for an update of the GEMS Food database which will involve the implementation of a web-based system for data submission; the collection of new data on large portion sizes to be used for acute exposure assessment, a comparison of the cluster diets with the national food consumption surveys on individuals and developing linkages between data on chemical occurrence, microbe occurrence and food composition.

### **Call for experts for the JMPR roster**

204. The JMPR Secretary advised the Committee that call for toxicological and epidemiological experts for the JMPR roster, to be considered to serve on the WHO Core Assessment Group of JMPR, has been published. Qualified scientists can apply to be considered.

205. The application deadline is 31 July 2010 and the details are available at the website [http://www.who.int/ipcs/food/jmpr/expert\\_calls/en/index.html](http://www.who.int/ipcs/food/jmpr/expert_calls/en/index.html)

### **DATE AND PLACE OF THE NEXT SESSION (Agenda Item 14)**

206. The Committee was informed that its 43<sup>rd</sup> Session was tentatively scheduled to be held in Beijing, China, from 18 through 23 April 2011, the final arrangements being subject to confirmation by the Host Country and the Codex Secretariat.

## Annex 1

## SUMMARY STATUS OF WORK

Subject	Step	Action by	Reference
Draft and Revised Draft MRLs	8	Governments, 33 <sup>rd</sup> CAC	Paras 28 – 85 and Appendix II
Proposed Draft and Revised Draft MRLs	5/8	Governments, 33 <sup>rd</sup> CAC	Paras 28 – 85 and Appendix III
Proposed Draft MRLs	5	Governments, 33 <sup>rd</sup> CAC, 43 <sup>rd</sup> CCPR	Paras 28 – 85 and Appendix IV
Codex Maximum Residue Limits Recommended for Revocation	-	Governments, 33 <sup>rd</sup> CAC	Paras 28 – 85 and Appendix V
Proposed Draft and Draft MRLs Retained at Step 7	7	JMPR, Governments, CCPR (depending on the year of the JMPR clarification)	Paras 28 – 85 and Appendix VI
Draft MRLs Returned to Step 6	6	Governments, 2010 JMPR, 43 <sup>rd</sup> CCPR	Paras 28 – 85 and Appendix VII
Draft Revision of the Codex Classification of Foods and Animal Feeds: <i>Bulb Vegetables; Fruiting Vegetables, other than cucurbits; Berries and other Small Fruits; Edible Fungi; Citrus Fruits; Pome Fruits; Stone Fruits; and Oilseeds</i>	7	CCPR (awaiting finalization of the revision of other commodities)	Para. 96 and Appendix IX
Proposed Draft Revision of the Codex Classification of Foods and Animal Feeds: <i>Tree Nuts; Herbs and Spices</i>	5	Governments, 33 <sup>rd</sup> CAC, 43 <sup>rd</sup> CCPR	Para. 105 and Appendix X
Proposed draft Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides for Commodity Groups	5	Governments, 33 <sup>rd</sup> CAC, 43 <sup>rd</sup> CCPR	Para 116 and Appendix XI
Addendum 1 on detailed justification on bulb vegetables and fruiting vegetables, other than cucurbits and Addendum 2 containing background information regarding representative commodities	2/3	EWG led by the Netherlands and the USA, Governments, 43 <sup>rd</sup> CCPR	Paras 117 – 118
Proposed Draft Revision of the Guidelines on the Estimation of Uncertainty of results for the determination of Pesticide Residues (CAC/RCP 59-2006)	3	Governments, EWG led by Australia and co-chaired by China, 43 <sup>rd</sup> CCPR	Para. 160 and Appendix X

Subject	Step	Action by	Reference
Revision of the CCPR Risk Analysis Principles	Procedure	EWG led by Argentina, Governments, 43 <sup>rd</sup> CCPR	Paras 139 – 150
<b>Discussion papers:</b>			
The application of proportionality in selecting data for the establishment of MRLs	-	Australia, 43 <sup>rd</sup> CCPR	Para. 73
The Guidance to Facilitate the Establishment of Codex MRLs for Minor Use and Specialty Crops	-	EWG led by the USA and co-chaired by Australia and Kenya, 43 <sup>rd</sup> CCPR	Paras 153 – 163
The status of the repository list of analytical methods	-	EWG led by Australia and co-chaired by China, 43 <sup>rd</sup> CCPR	Para. 194
<b>New work:</b>			
Priority List of Pesticides (New Pesticides and Pesticides under Periodic Review)	1/2/3	33 <sup>rd</sup> CAC, Governments, EWG led by Australia, 43 <sup>rd</sup> CCPR	Paras 186 - 207 and Appendix XII
The pilot project in which JMPR would conduct an independent, parallel review along with a global joint review team and recommend MRLs before national governments establish MRLs	-	USA, 64 <sup>th</sup> CCEXEC, 33 <sup>rd</sup> CAC, 43 <sup>rd</sup> CCPR	Para. 202
<b>Discontinuation of work:</b>			
Discontinuation of Work on the Proposed Draft and Draft Maximum Residue Limits for Pesticides	-	Governments, 33 <sup>rd</sup> CAC	Paras 28 – 85 and Appendix VIII

## APPENDIX I

## LIST OF PARTICIPANTS

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## APPENDIX II

**DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES**  
**(Recommended for adoption at Step 8)**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
221	<b>Boscalid</b>			
	FI 327 Banana	0.6	8	
96	<b>Carbofuran</b>			
	FC 4 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	0.5	8	
	FC 206 Mandarin	0.5	8	Based on the use of carbosulfan.
145	<b>Carbosulfan</b>			
	FC 4 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	0.1	8	
	FC 206 Mandarin	0.1	8	
94	<b>Methomyl</b>			
	FP 226 Apple	0.3	8	

## APPENDIX III

**PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES**  
**(Recommended for adoption at Step 5 and 8 with omission of Steps 6 and 7)**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
155	<b>Benalaxyl</b>			
	VO 448 Tomato	0.2	5/8	
	VR 589 Potato	0.02 (*)	5/8	
	VC 432 Watermelon	0.1	5/8	
	VC 46 Melons, except watermelon	0.3	5/8	
	VL 482 Lettuce, Head	1	5/8	
	FB 269 Grapes	0.3	5/8	
	VA 385 Onion, Bulb	0.02 (*)	5/8	
221	<b>Boscalid</b>			
	AS 650 Rye straw and fodder, Dry	50	5/8	
	AS 654 Wheat straw and fodder, Dry	50	5/8	
	FS 12 Stone fruits	3	5/8	
	PO 111 Poultry, Edible offal of	0.02	5/8	
	AS 647 Oat straw and fodder, Dry	50	5/8	
	AS 640 Barley straw and fodder, Dry	50	5/8	
	AS 81 Straw and fodder (dry) of cereal grains	5	5/8	Except straw and fodder of barley, oats, rye and wheat.
	DF 14 Prunes	10	5/8	The dried fruit.
	SO 88 Oilseed	1	5/8	
	TN 675 Pistachio nuts	1	5/8	
	PF 111 Poultry fats	0.02	5/8	
	PM 110 Poultry meat	0.02	5/8	
	GC 647 Oats	0.5	5/8	
	VR 75 Root and tuber vegetables	2	5/8	
	GC 650 Rye	0.5	5/8	
	TN 85 Tree nuts	0.05 (*)	5/8	Except pistachio.
	GC 654 Wheat	0.5	5/8	
	AM 660 Almond hulls	15	5/8	
	FP 226 Apple	2	5/8	
	MO 105 Edible offal (mammalian)	0.2	5/8	
	PE 112 Eggs	0.02	5/8	
	VC 45 Fruiting vegetables, Cucurbits	3	5/8	
	FB 275 Strawberry	3	5/8	
	VO 50 Fruiting vegetables other than cucurbits	3	5/8	Except fungi, mushroom and sweet corn.
	VL 53 Leafy vegetables	30	5/8	
	VA 35 Bulb vegetables	5	5/8	
	VB 40 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	5	5/8	
	FB 18 Berries and other small fruits	10	5/8	Except strawberries and grapes.
	GC 640 Barley	0.5	5/8	
	FI 341 Kiwi fruit	5	5/8	
	VP 60 Legume vegetables	3	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.7 (fat)	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	ML 106 Milks	0.1	5/8	
	HS 444 Chilli peppers, dry	10	5/8	
	FB 269 Grapes	5	5/8	
173	<b>Buprofezin</b>			
	FB 269 Grapes	1	5/8	
	AM 660 Almond hulls	2	5/8	
	TN 660 Almonds	0.05 (*)	5/8	
	FP 226 Apple	3	5/8	
	FS 13 Cherries	2	5/8	
	VC 45 Fruiting vegetables, Cucurbits	0.7	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.05 (*)	5/8	
	DF 269 Dried grapes (=currants, raisins and sultanas)	2	5/8	
	ML 106 Milks	0.01 (*)	5/8	
	FT 305 Olives	5	5/8	
	FS 247 Peach	9	5/8	
	FP 230 Pear	6	5/8	
	VO 51 Peppers	2	5/8	
	FS 14 Plums (including prunes)	2	5/8	
	FB 275 Strawberry	3	5/8	
	MO 105 Edible offal (mammalian)	0.05 (*)	5/8	
	VO 444 Peppers Chili	10	5/8	
	FS 245 Nectarine	9	5/8	
90	<b>Chlorpyrifos-Methyl</b>			
	FB 275 Strawberry	0.06	5/8	
	VO 448 Tomato	1	5/8	
	VO 440 Egg plant	1	5/8	
	HS 444 Chilli peppers, dry	10	5/8	
	FC 1 Citrus fruits	2	5/8	
	FS 12 Stone fruits	0.5	5/8	
	VO 51 Peppers	1	5/8	
	VR 589 Potato	0.01 (*)	5/8	
	FP 9 Pome fruits	1	5/8	
	FB 269 Grapes	1	5/8	
118	<b>Cypermethrins (including alpha- and zeta- cypermethrin)</b>			
	GC 650 Rye	2 Po	5/8	
	GC 647 Oats	2 Po	5/8	
	PE 112 Eggs	0.01 (*)	5/8	
	GC 80 Cereal grains	0.3	5/8	Except rice, barley, oats, rye and wheat.
	GC 640 Barley	2 Po	5/8	
	GC 654 Wheat	2 Po	5/8	
	PM 110 Poultry meat	0.1 (fat)	5/8	
	CM 654 Wheat bran, Unprocessed	5 PoP	5/8	
197	<b>Fenbuconazole</b>			
	PM 110 Poultry meat	0.01 (*)	5/8	
	ML 106 Milks	0.01 (*)	5/8	
	PO 111 Poultry, Edible offal of	0.01 (*)	5/8	
	TN 85 Tree nuts	0.01 (*)	5/8	
	PE 112 Eggs	0.01 (*)	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
235	<b>Fluopicolide</b>			
	AS 81 Straw and fodder (dry) of cereal grains	0.2	5/8	
	PM 110 Poultry meat	0.01 (*)	5/8	
	VA 385 Onion, Bulb	1	5/8	
	VA 387 Onion, Welsh	10	5/8	
	HS 444 Chilli peppers, dry	7	5/8	
	VB 42 Flowerhead brassicas (includes Broccoli: Broccoli, Chinese and Cauliflower)	2	5/8	
	VB 402 Brussels sprouts	0.2	5/8	
	PE 112 Eggs	0.01 (*)	5/8	
	VC 45 Fruiting vegetables, Cucurbits	0.5	5/8	
	VO 50 Fruiting vegetables other than cucurbits	1	5/8	Except mushrooms and sweet corn.
	DF 269 Dried grapes (=currants, raisins and sultanas)	10	5/8	
	AB 269 Grape pomace, Dry	7	5/8	
	MO 105 Edible offal (mammalian)	0.01 (*)	5/8	
	PO 111 Poultry, Edible offal of	0.01 (*)	5/8	
	ML 106 Milks	0.02	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.01 (*) (fat)	5/8	
	FB 269 Grapes	2	5/8	
194	<b>Haloxifop</b>			
	VA 385 Onion, Bulb	0.2	5/8	
	SB 716 Coffee beans	0.02 (*)	5/8	
	FS 12 Stone fruits	0.02 (*)	5/8	
	FI 327 Banana	0.02 (*)	5/8	
176	<b>Hexythiazox</b>			
	VO 448 Tomato	0.1	5/8	
	VC 45 Fruiting vegetables, Cucurbits	0.05	5/8	Except watermelon.
	FB 269 Grapes	1	5/8	
	MF 100 Mammalian fats (except milk fats)	0.05	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.05 (fat)	5/8	
	FM 183 Milk fats	0.05	5/8	
	ML 106 Milks	0.05	5/8	
	FP 9 Pome fruits	0.4	5/8	
	PM 110 Poultry meat	0.05 (*) (fat)	5/8	
	FC 1 Citrus fruits	0.5	5/8	
	FS 12 Stone fruits	0.3	5/8	
	TN 85 Tree nuts	0.05 (*)	5/8	
	VO 440 Egg plant	0.1	5/8	
	MO 105 Edible offal (mammalian)	0.05	5/8	
	DF 269 Dried grapes (=currants, raisins and sultanas)	1	5/8	
	FT 295 Date	2	5/8	
	PE 112 Eggs	0.05	5/8	
	AB 269 Grape pomace, Dry	15	5/8	
	DF 14 Prunes	1	5/8	
	PO 111 Poultry, Edible offal of	0.05	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
216	<b>Indoxacarb</b>			
	PO 111 Poultry, Edible offal of	0.01 (*)	5/8	
	PM 110 Poultry meat	0.01 (*) (fat)	5/8	
	FB 265 Cranberry	1	5/8	
	MO 105 Edible offal (mammalian)	0.05	5/8	
	PE 112 Eggs	0.02	5/8	
	VC 45 Fruiting vegetables, Cucurbits	0.5	5/8	
	MM 95 Meat (from mammals other than marine mammals)	2 (fat)	5/8	
	FM 183 Milk fats	2	5/8	
	HH 738 Mints	15	5/8	
	FS 12 Stone fruits	1	5/8	
	ML 106 Milks	0.1	5/8	
	DF 14 Prunes	3	5/8	The dried fruit.
	VD 527 Cowpea (dry)	0.1	5/8	
236	<b>Metaflumizone</b>			
	HS 444 Chilli peppers, dry	6	5/8	
	ML 106 Milks	0.01 (*)	5/8	
	VR 589 Potato	0.02 (*)	5/8	
	VO 440 Egg plant	0.6	5/8	
	VO 448 Tomato	0.6	5/8	
	FM 183 Milk fats	0.02	5/8	
	VB 402 Brussels sprouts	0.8	5/8	
	MO 105 Edible offal (mammalian)	0.02 (*)	5/8	
	VL 482 Lettuce, Head	7	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.02 (*) (fat)	5/8	
	VO 51 Peppers	0.6	5/8	
	VL 466 Chinese cabbage (type pak-choi)	6	5/8	
209	<b>Methoxyfenozone</b>			
	AL 697 Peanut fodder	80	5/8	
	FI 326 Avocado	0.7	5/8	
	VP 526 Common bean (pods and/or immature seeds)	2	5/8	
	VR 508 Sweet potato	0.02	5/8	
	VR 596 Sugar beet	0.3	5/8	
	FB 275 Strawberry	2	5/8	
	VL 494 Radish leaves (including radish tops)	7	5/8	
	VR 494 Radish	0.4	5/8	
	OR 697 Peanut oil, Edible	0.1	5/8	
	SO 697 Peanut	0.03	5/8	
	FI 350 Papaya	1	5/8	
	VR 577 Carrot	0.5	5/8	
	VP 62 Beans, Shelled	0.3	5/8	
	VD 71 Beans (dry)	0.5	5/8	
	VP 64 Peas, Shelled (succulent seeds)	0.3	5/8	
	FB 20 Blueberries	4	5/8	
	ML 106 Milks	0.05	5/8	
	FC 1 Citrus fruits	0.7	5/8	
	VD 527 Cowpea (dry)	5	5/8	
	FB 265 Cranberry	0.7	5/8	



	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	MO 105 Edible offal (mammalian)	0.1	5/8	
	MF 100 Mammalian fats (except milk fats)	0.2	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.2 (fat)	5/8	
57	<b>Paraquat</b>			
	AS 649 Rice straw and fodder, Dry	0.05	5/8	
	GC 649 Rice	0.05	5/8	
142	<b>Prochloraz</b>			
	VO 450 Mushrooms	3	5/8	
232	<b>Prothioconazole</b>			
	SO 495 Rape seed	0.1	5/8	
	AS 164 Fodder (dry) of cereal grains	5	5/8	
	GC 654 Wheat	0.1	5/8	
	AS 81 Straw and fodder (dry) of cereal grains	4	5/8	
	VR 596 Sugar beet	0.3	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.01	5/8	
	MO 105 Edible offal (mammalian)	0.5	5/8	
	GC 640 Barley	0.2	5/8	
	VD 70 Pulses	1	5/8	Except soya bean, dry.
	ML 106 Milks	0.004 (*)	5/8	
237	<b>Spirodiclofen</b>			
	DF 269 Dried grapes (=currants, raisins and sultanas)	0.3	5/8	
	TN 85 Tree nuts	0.05	5/8	
	VO 448 Tomato	0.5	5/8	
	FB 275 Strawberry	2	5/8	
	FS 12 Stone fruits	2	5/8	
	FP 9 Pome fruits	0.8	5/8	
	FI 350 Papaya	0.03 (*)	5/8	
	MM 95 Meat (from mammals other than marine mammals)	0.01 (*) (fat)	5/8	
	ML 106 Milks	0.004 (*)	5/8	
	DH 1100 Hops, Dry	40	5/8	
	VC 425 Gherkin	0.07	5/8	
	MO 105 Edible offal (mammalian)	0.05 (*)	5/8	
	FB 21 Currants, Black, Red, White	1	5/8	
	VC 424 Cucumber	0.07	5/8	
	SB 716 Coffee beans	0.03 (*)	5/8	
	FC 1 Citrus fruits	0.4	5/8	
	AB 226 Apple pomace, Dry	4	5/8	
	AM 660 Almond hulls	15	5/8	
	VO 445 Peppers, Sweet (including pimento or pimienta)	0.2	5/8	
	FB 269 Grapes	0.2	5/8	
227	<b>Zoxamide</b>			
	VC 45 Fruiting vegetables, Cucurbits	2		

## APPENDIX IV

**PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES**  
**(Recommended for adoption at Step 5)**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
90	<b>Chlorpyrifos-Methyl</b>			
	PM 110 Poultry meat	0.01 (fat)	5	
	GC 647 Oats	10 Po	5	
	CF 1210 Wheat germ	5 PoP	5	
	GC 654 Wheat	3 Po	5	
	PO 111 Poultry, Edible offal of	0.01 (*)	5	
	FM 183 Milk fats	0.01 (*)	5	
	ML 106 Milks	0.01 (*)	5	
	MM 95 Meat (from mammals other than marine mammals)	0.1 (fat)	5	
	PE 112 Eggs	0.01 (*)	5	
	MO 105 Edible offal (mammalian)	0.01	5	
	GC 640 Barley	3 Po	5	
	GC 649 Rice	10 Po	5	
	AB 269 Grape pomace, Dry	5	5	
	CM 654 Wheat bran, Unprocessed	6 PoP	5	
197	<b>Fenbuconazole</b>			
	AM 660 Almond hulls	3	5	
	VO 51 Peppers	0.6	5	
	HS 444 Peppers Chili, dried	2	5	
	AL 697 Peanut fodder	15	5	
	SO 697 Peanut	0.1	5	
	MM 95 Meat (from mammals other than marine mammals)	0.01	5	
	MO 105 Edible offal (mammalian)	0.1	5	
	FB 265 Cranberry	1	5	
	AB 226 Apple pomace, Dry	1	5	
	FS 14 Plums (including prunes)	0.3	5	
	FP 9 Pome fruits	0.5	5	
	FB 20 Blueberries	0.5	5	
235	<b>Fluopicolide</b>			
	VS 624 Celery	20	5	
	VB 41 Cabbages, Head	7	5	
	VL 53 Leafy vegetables	30	5	
194	<b>Haloxypop</b>			
	ML 106 Milks	0.3	5	
	SO 702 Sunflower seed	0.3	5	
	VR 596 Sugar beet	0.4	5	
	VD 541 Soya bean (dry)	2	5	
	SO 495 Rape seed	3	5	
	PO 111 Poultry, Edible offal of	0.7	5	
	PM 110 Poultry meat	0.7 (fat)	5	
	FP 9 Pome fruits	0.02 (*)	5	
	VP 64 Peas, Shelled (succulent seeds)	1	5	
	VP 63 Peas (pods and succulent=immature seeds)	0.7	5	

<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
VD 71 Beans (dry)	3	5	
AL 697 Peanut fodder	5	5	
VP 61 Beans, except broad bean and soya bean	0.5	5	
FM 183 Milk fats	7	5	
MM 95 Meat (from mammals other than marine mammals)	0.5 (fat)	5	
FB 269 Grapes	0.02 (*)	5	
AM 1051 Fodder beet	0.4	5	
PE 112 Eggs	0.1	5	
MO 105 Edible offal (mammalian)	2	5	
SO 691 Cotton seed	0.7	5	
FC 1 Citrus fruits	0.02 (*)	5	
VD 524 Chick-pea (dry)	0.05	5	
VD 72 Peas (dry)	0.2	5	

## APPENDIX V

**CODEX MAXIMUM RESIDUE LIMITS FOR PESTICIDES RECOMMENDED  
FOR REVOCATION**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
155	<b>Benalaxyl</b>			
	VO 448 Tomato	0.5	CXL-D	
	FB 269 Grapes	0.2	CXL-D	
	DH 1100 Hops, Dry	0.2	CXL-D	
	VA 385 Onion, Bulb	0.2	CXL-D	
	VC 424 Cucumber	0.05	CXL-D	
	HS 444 Chilli peppers, dry	0.5	CXL-D	
	VC 46 Melons, except watermelon	0.1	CXL-D	
	VO 445 Peppers, Sweet (including pimento or pimiento)	0.05	CXL-D	
	VR 589 Potato	0.02 (*)	CXL-D	
221	<b>Boscalid</b>			
	TN 85 Tree nuts	0.05 (*)	CXL-D	Except pistachio
	FS 12 Stone fruits	3	CXL-D	
	TN 675 Pistachio nuts	1	CXL-D	
	DF 269 Dried grapes (=currants, raisins and sultanas)	10	CXL-D	
	FB 269 Grapes	5	CXL-D	
	SB 716 Coffee beans	0.05 (*)	CXL-D	
	FB 18 Berries and other small fruits	10	CXL-D	Except strawberry and grapes
	FP 226 Apple	2	CXL-D	
	FI 327 Banana	0.2	CXL-D	
	AM 660 Almond hulls	15	CXL-D	
173	<b>Buprofezin</b>			
	MO 105 Edible offal (mammalian)	0.05 (*)	CXL-D	
	MM 95 Meat (from mammals other than marine mammals)	0.05 (*)	CXL-D	
	ML 106 Milks	0.01 (*)	CXL-D	
	VC 424 Cucumber	0.2	CXL-D	
8	<b>Carbaryl</b>			
	FS 13 Cherries	10	CXL-D	1999-2003
90	<b>Chlorpyrifos-Methyl</b>			
	DT 1114 Tea, Green, Black (black, fermented and dried)	0.1	CXL-D	
	FB 269 Grapes	0.2	CXL-D	
	FS 247 Peach	0.5	CXL-D	
	CP 1212 Wholemeal bread	2	PoP	CXL-D
	FC 4 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	0.5		CXL-D
	CP 1211 White bread	0.5	PoP	CXL-D
	ML 106 Milks	0.01 (*)		CXL-D
	VB 41 Cabbages, Head	0.1		CXL-D
	CF 1211 Wheat flour	2	Po	CXL-D
	FT 295 Date	0.05		CXL-D
	VO 450 Mushrooms	0.01 (*)		CXL-D
	VL 467 Chinese cabbage (type pe-tsai)	0.1		CXL-D
	VL 482 Lettuce, Head	0.1		CXL-D

<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
VO 440 Egg plant	0.1	CXL-D	
VO 448 Tomato	0.5	CXL-D	
FP 226 Apple	0.5	CXL-D	
VO 51 Peppers	0.5	CXL-D	
VP 526 Common bean (pods and/or immature seeds)	0.1	CXL-D	
VR 494 Radish	0.1	CXL-D	
VS 620 Artichoke, Globe	0.1	CXL-D	
<b>118 Cypermethrins (including alpha- and zeta- cypermethrin)</b>			
PE 112 Eggs	0.01 (*)	CXL-D	
GC 80 Cereal grains	0.3	CXL-D	Except rice.
PM 110 Poultry meat	0.05 (*) (fat)	CXL-D	
<b>197 Fenbuconazole</b>			
ML 812 Cattle milk	0.05 (*)	CXL-D	
PE 112 Eggs	0.05 (*)	CXL-D	
TN 672 Pecan	0.05 (*)	CXL-D	
PF 111 Poultry fats	0.05 (*)	CXL-D	
PM 110 Poultry meat	0.05 (*)	CXL-D	
PO 111 Poultry, Edible offal of	0.05 (*)	CXL-D	
<b>194 Haloxyfop</b>			
FI 327 Banana	0.05 (*)	CXL-D	
<b>176 Hexythiazox</b>			
FS 247 Peach	1	CXL-D	
VC 424 Cucumber	0.1	CXL-D	
VO 448 Tomato	0.1	CXL-D	
FS 13 Cherries	1	CXL-D	
VP 526 Common bean (pods and/or immature seeds)	0.5	CXL-D	
FB 269 Grapes	1	CXL-D	
FB 279 Currant, Red, White	0.2	CXL-D	
FC 1 Citrus fruits	0.5	CXL-D	
FP 226 Apple	0.5	CXL-D	
FP 230 Pear	0.5	CXL-D	
FS 14 Plums (including prunes)	0.2	CXL-D	
<b>216 Indoxacarb</b>			
VC 46 Melons, except watermelon	0.1	CXL-D	
ML 106 Milks	0.1	CXL-D	
MM 95 Meat (from mammals other than marine mammals)	1 (fat)	CXL-D	
PE 112 Eggs	0.01 (*)	CXL-D	
VC 424 Cucumber	0.2	CXL-D	
MO 105 Edible offal (mammalian)	0.05	CXL-D	
PM 110 Poultry meat	0.01 (*) (fat)	CXL-D	
FS 247 Peach	0.3	CXL-D	
FM 183 Milk fats	2	CXL-D	
PO 111 Poultry, Edible offal of	0.01 (*)	CXL-D	
<b>209 Methoxyfenozide</b>			
ML 106 Milks	0.01	CXL-D	
MM 95 Meat (from mammals other than marine mammals)	0.05 (fat)	CXL-D	
MO 105 Edible offal (mammalian)	0.02	CXL-D	
FB 265 Cranberry	0.7	CXL-D	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
57	<b>Paraquat</b>			
	GC 649 Rice	10	CXL-D	
142	<b>Prochloraz</b>			
	VO 450 Mushrooms	2	CXL-D	
232	<b>Prothioconazole</b>			
	GC 640 Barley	0.05	CXL-D	
	AS 640 Barley straw and fodder, Dry	2	CXL-D	
	AS 654 Wheat straw and fodder, Dry	2	CXL-D	
	AS 653 Triticale straw and fodder, Dry	2	CXL-D	
	AS 650 Rye straw and fodder, Dry	2	CXL-D	
	AS 647 Oat straw and fodder, Dry	2	CXL-D	
	MO 105 Edible offal (mammalian)	0.2	CXL-D	
	MF 100 Mammalian fats (except milk fats)	0.01	CXL-D	
	ML 106 Milks	0.004 (*)	CXL-D	
	GC 654 Wheat	0.05	CXL-D	
	SO 495 Rape seed	0.05	CXL-D	
133	<b>Triadimefon</b>			
	FB 269 Grapes	0.5	CXL-D	
168	<b>Triadimenol</b>			
	FB 269 Grapes	2	CXL-D	
227	<b>Zoxamide</b>			
	VC 424 Cucumber	1	CXL-D	

## APPENDIX VI

**PROPOSED DRAFT AND DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES  
(Retained at Step 7)**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Source</u>	<u>Step</u>	<u>Note</u>
118	<b>Cypermethrins (including alpha- and zeta- cypermethrin)</b>				
	VS 621 Asparagus	0.01 (*)		7	
204	<b>Esfenvalerate</b>				
	GC 654 Wheat	0.05		7	
	VO 448 Tomato	0.1		7	
	SO 691 Cotton seed	0.05		7	
193	<b>Fenpyroximate</b>				
	FB 269 Grapes	1		7	
212	<b>Metalaxyl-M</b>				
	VL 482 Lettuce, Head	0.5		7	
	VR 589 Potato	0.02 (*)		7	
	VO 448 Tomato	0.2		7	
	VO 445 Peppers, Sweet (including pimento or pimiento)	0.5		7	
	VL 502 Spinach	0.1		7	
	VA 385 Onion, Bulb	0.03		7	
	SO 702 Sunflower seed	0.02 (*)		7	
	SB 715 Cacao beans	0.02		7	
	FP 226 Apple	0.02 (*)		7	
	FB 269 Grapes	1		7	
126	<b>Oxamyl</b>				
	VC 424 Cucumber	1		7	
	VO 51 Peppers	5		7	
	FC 1 Citrus fruits	3		7	
	VC 46 Melons, except watermelon	1		7	
112	<b>Phorate</b>				
	VR 589 Potato	0.5		7	
189	<b>Tebuconazole</b>				
	VC 432 Watermelon	0.1		7	
	GC 640 Barley	2		7	
	VC 46 Melons, except watermelon	0.2		7	
	VO 448 Tomato	0.5		7	
	VO 447 Sweet corn (corn-on-the-cob)	0.1		7	
	VD 541 Soya bean (dry)	0.1		7	
	GC 649 Rice	2		7	
	DF 14 Prunes	0.5		7	
	FP 9 Pome fruits	1		7	
	FS 14 Plums (including prunes)	0.2		7	excluding prunes
	SO 697 Peanut	0.1		7	
	VS 620 Artichoke, Globe	0.5		7	
	VA 385 Onion, Bulb	0.1		7	
	AS 640 Barley straw and fodder, Dry	30		7	
	FI 345 Mango	0.1		7	
	GC 645 Maize	0.1		7	
	VL 482 Lettuce, Head	5		7	
	VA 384 Leek	1		7	
	VA 381 Garlic	0.1		7	

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<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Source</u>	<u>Step</u>	<u>Note</u>
FB 267 Elderberry	2		7	
MO 105 Edible offal (mammalian)	0.5		7	
VP 526 Common bean (pods and/or immature seeds)	2		7	
VR 577 Carrot	0.5		7	
VB 40 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	1		7	
FI 350 Papaya	2		7	



## APPENDIX VII

**PROPOSED DRAFT AND DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES  
(Returned to Step 6)**

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Source</u>	<u>Step</u>	<u>Note</u>
90	<b>Chlorpyrifos-Methyl</b> GC 640 Barley	10	Po	6	
143	<b>Triazophos</b> VP 541 Soya bean (immature seeds)	1		6	With the pod.
157	<b>Cyfluthrin/beta-cyfluthrin</b> VB 41 Cabbages, Head	4		6	

## APPENDIX VIII

## DRAFTS CODEX MAXIMUM RESIDUE LIMITS FOR PESTICIDES WITHDRAWN

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
221	<b>Boscalid</b>			
	FI 341 Kiwi fruit	5		MRL-W
8	<b>Carbaryl</b>			
	FS 13 Cherries	20		MRL-W
90	<b>Chlorpyrifos-Methyl</b>			
	GC 645 Maize	3	Po	MRL-W
157	<b>Cyfluthrin/beta-cyfluthrin</b>			
	VB 400 Broccoli	2		MRL-W
	VB 400 Broccoli	2		MRL-W
194	<b>Haloxyfop</b>			
	OC 495 Rape seed oil, Crude	5		MRL-W
	CM 649 Rice, Husked	0.02 (*)		MRL-W
	CM 1206 Rice bran, Unprocessed	0.02 (*)		MRL-W
	CM 1205 Rice, Polished	0.02 (*)		MRL-W
	OR 541 Soya bean oil, Refined	0.2		MRL-W
	OR 495 Rapeseed oil, Edible	5		MRL-W
	OC 541 Soya bean oil, Crude	0.2		MRL-W
	SO 495 Rape seed	2		MRL-W
	MO 1281 Cattle liver	0.5		MRL-W
	MO 1280 Cattle kidney	1		MRL-W
	MM 812 Cattle meat	0.05		MRL-W
	ML 812 Cattle milk	0.3		MRL-W
	OC 691 Cotton seed oil, Crude	0.5		MRL-W
	PE 840 Chicken eggs	0.01 (*)		MRL-W
	AM 1051 Fodder beet	0.3		MRL-W
	PO 840 Chicken, Edible offal of	0.05		MRL-W
	SO 691 Cotton seed	0.2		MRL-W
	SO 697 Peanut	0.05		MRL-W
	SO 702 Sunflower seed	0.2		MRL-W
	VD 70 Pulses	0.2		MRL-W
	VP 63 Peas (pods and succulent=immature seeds)	0.2		MRL-W
	VR 589 Potato	0.1		MRL-W
	VR 596 Sugar beet	0.3		MRL-W
	PM 840 Chicken meat	0.01 (*)		MRL-W
209	<b>Methoxyfenozide</b>			
	VL 502 Spinach	50		MRL-W
142	<b>Prochloraz</b>			
	VO 450 Mushrooms	40		MRL-W
133	<b>Triadimefon</b>			
	FB 269 Grapes	5		MRL-W Based on triadimefon and triadimenol uses.
168	<b>Triadimenol</b>			
	FB 269 Grapes	5		MRL-W Based on triadimefon and triadimenol uses.

## APPENDIX IX

**DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS  
– PROPOSAL FOR EIGHT COMMODITY GROUPS:**

*Bulb Vegetables; Fruiting Vegetables, other than Cucurbits; Berries and other Small Fruits; Edible Fungi; Citrus Fruits; Pome Fruits; Stone Fruits; and Oilseeds*

**(Retained at Step 7)**

**Bulb vegetables**

**Class A**

**Type 2                      Vegetables                      Group 009                      Group Letter Code VA**

Bulb vegetables are pungent highly flavoured foods derived from fleshy scale bulbs (in some commodities including stem and leaves), of the genera *Allium* of the familia Alliaceae and *Lilium* of the family Liliaceae.

The subterranean parts of the bulbs and shoots are protected from direct exposure to pesticides during the growing season.

The entire bulb may be consumed after removal of the parchment-like skin. The leaves and stems of some species or cultivars may also be consumed.

Bulb onions are bulb vegetables with mature bulbs. The entire bulb may be consumed after removal of the parchment-like skin.

Green onions are bulb vegetables with immature bulbs. Immature bulbs may be consumed and also leaves and stems of some species of cultivars may also be consumed.

Group 009A Bulb onions: Mature bulbs (dry)

Group 009B Green onions: immature bulbs including leaves stems and flowers

Portion of the commodity to which the MRL applies (and which is analysed): **Bulb onions: Whole commodity after removal of roots and adhering soil and whatever parchment skin is easily detached. Green onions: Whole vegetable after removal of roots and adhering soil.**

**Group 009 Bulb vegetables**

<u>Code No.</u>	<u>Commodity</u>
VA 0035	<b>Bulb vegetables</b> (includes all commodities in this group)

**Group 009A, Bulb onions**

<u>Code No.</u>	<u>Commodity</u>
VA 2031	<b>Bulb Onions</b> (includes all commodities in this subgroup)
VA 2600	<b>Daylily</b> <i>Hemerocallis fulva</i> (L.) L.; <i>H. minor</i> Mill; <i>H. citrina</i> Baroni; <i>H. lilioasphodelus</i> L.
VA 2601	<b>Fritillaria (bulb)</b> <i>Fritillaria camchatcensis</i> (L.) Ker. Gawl.
VA 0381	<b>Garlic</b> <i>Allium sativum</i> L.
VA 0382	<b>Garlic, Great-headed</b> <i>Allium ampeloprasum</i> L., var. <i>ampeloprasum</i>
VA 2602	<b>Garlic, Serpent</b> <i>Allium sativum</i> var. <i>ophioscorodon</i> (Link) Döll

VA 2603	<b>Lily</b> <i>Lilium</i> spp.
VA 0385	<b>Onion, Bulb</b> <i>Allium cepa</i> L. var. <i>cepa</i> , various cultivars
VA 0386	<b>Onion, Chinese</b> <i>Allium chinense</i> G. Don.; syn: <i>A. bakeri</i> Regel
-	<b>Rakkyo</b> , see Onion, Chinese, VA 0386
VA 0388	<b>Shallot</b> <i>A. cepa</i> L., var. <i>aggregatum</i> Don.
VA 0390	<b>Silverskin onion</b> <i>Allium cepa</i> L.
<b>Group 009B, Green onions</b>	
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VA 2032	<b>Green Onions</b> (includes all commodities in this subgroup)
VA 2605	<b>Chives</b> <i>Allium schoenoprasum</i> L.
VA 2606	<b>Chives, Chinese</b> <i>Allium tuberosum</i> Rottler ex Spreng.
VA 2607	<b>Elegans hosta</b> <i>Hosta sieboldiana</i> (Hook.) Engl.
VA 2608	<b>Fritillaria (green)</b> <i>Fritillaria camchatcensis</i> (L.) Ker. Gawl.
VA 2609	<b>Garlic chives</b> <i>Allium sativum</i> L. var. <i>sativum</i>
-	<b>Japanese bunching onion</b> , see Onion, Welsh, VA 0387
VA 0383	<b>Kurrat</b> <i>Allium kurrat</i> Schweinf. Ex K. Krause
VA 2610	<b>Lady's leek</b> <i>Allium cernuum</i> Roth
VA 0384	<b>Leek</b> <i>Allium porrum</i> L.; syn: <i>A. ampeloprasum</i> L., var. <i>porrum</i> (L.) Gay
-	<b>Multiplying onion</b> , see Onion, Welsh, VA 0387
VA 2611	<b>Onion, Beltsville bunching</b> <i>Allium x proliferum</i> (Moench) Schrad. syn: <i>Allium cepa</i> L. x <i>A. fistulosum</i> L.)
-	<b>Onion, Egyptian</b> , see Tree onion, VA 0391
VA 2612	<b>Onion, fresh</b> <i>Allium fistulosum</i> L. var. <i>caespitosum</i> Makino
-	<b>Onion, green</b> , see Spring onion, VA 0389
VA 2613	<b>Onion, macrostem</b> <i>Allium macrostemom</i> Bunge
VA 2614	<b>Onion, pearl</b>

	<i>Allium porrum</i> L. var. <i>sectivum</i> Lueder
VA 2615	<b>Onion, potato</b>
	<i>Allium cepa</i> var. <i>aggregatum</i> G. Don.
VA 0387	<b>Onion, Welsh</b>
	<i>Allium fistulosum</i> L.
VA 0389	<b>Spring onion</b>
	<i>Allium cepa</i> L., various cultivars, a.o. White Lisbon; White Portugal
VA 0391	<b>Tree onion</b>
	<i>Allium x proliferum</i> (Moench) Schrad. ex Willd.; <i>Allium x wakegii</i> Araki syn: <i>A. cepa</i> var. <i>proliferum</i> (Moench) Regel syn: <i>A. cepa</i> L. var. <i>bulbiferum</i> L.H. Bailey syn: <i>A. cepa</i> L. var. <i>viviparum</i> (Metz.) Alef.
VA 2616	<b>Wild leek</b>
	<i>Allium tricoccum</i> Aiton

**Fruiting vegetables, other than Cucurbits****Class A****Type 2                      Vegetables                      Group 012                      Group Letter Code VO**

Group 012 Fruiting vegetables, other than Cucurbits are derived from the immature and mature fruits of various plants, usually annual vines or bushes. Many plants of this group belong to the botanical family Solanaceae.

This group does not include fruits of vegetables of the botanical family Cucurbitaceae or the pods of vegetables of the Leguminosae family.

The vegetables of this group are fully exposed to pesticides applied during the period of fruit development, except those of which the edible portion is covered by husks, such as ground cherries (*Physalis* spp.). The latter fruiting vegetables are protected from most pesticides by the husk except from pesticides with a systemic action.

The entire fruiting vegetable or the edible portion after discarding husks or peels may be consumed in a fresh form or after processing.

Three subgroups are defined:

Group 012 A Tomatoes

Group 012 B Pepper and pepper-like commodities

Group 012 C Egg plant and egg plant-like commodities

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stems.**

**Group 012 Fruiting vegetables, other than Cucurbits**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VO 0050	<b>Fruiting vegetables, other than Cucurbits</b> (includes all commodities in this group)

**Group 12A      Tomatoes**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VO 2045	<b>Tomatoes</b> (includes all commodities in this subgroup)
-	<b>Alkekengi</b> , see Ground cherries, VO 0441 <i>Physalis alkekengi</i> L.
VO 0451	<b>Bush tomato</b> <i>Solanum centrale</i> Black

- **Cape gooseberry**, (Codex Stand. 226 – 2001), see Ground cherries, VO 0441  
*Physalis peruviana* L.
- VO 2700 **Cherry tomato**  
*Lycopersicon esculentum* var. *cerasiforme* (Dunal) A. Gray
- **Chinese lantern plant**, see Ground cherries, VO 0441
- VO 2701 **Cocona**  
*Solanum sessiliflorum* Dunal.
- VO 2702 **Currant tomato**  
*Lycopersicon pimpinellifolium* (L.) Mill.
- VO 2703 **Garden huckleberry**  
*Solanum scabrum* Mill.
- VO 2704 **Goji berry**  
*Lycium barbarum* L.
- **Golden berry**, see Ground cherries, VO 0441  
*Physalis peruviana* L.
- VO 0441 **Ground cherries**  
*Physalis alkekengi* L.; *Ph. ixocarpa* Brot. ex Horn.; *Ph. peruviana* L.
- **Husk tomato**, see Ground cherries, VO 0441
- **Naranjilla**, see Group 006 Assorted tropical and sub-tropical fruits - inedible peel, FI 0349  
*Solanum quitoense* Lam.
- **Quito Orange**, see Naranjilla, FI 0349
- VO 2705 **Strawberry tomato**, see Ground cherries, VO 0441
- VO 2706 **Sunberry**  
*Solanum retroflexum* Dunal.
- VO 2707 **Tomatillo**  
*Physalis philadelphica* Lam.  
Syn. *Physalis ixocarpa* auct.
- VO 0448 **Tomato**  
*Lycopersicon esculentum* Mill.;;  
syn: *Solanum lycopersicum* L.
- **Tree tomato**, see Group 06 Assorted tropical and sub-tropical fruits – inedible peel , FT 0312

## Group 12B Pepper and pepper-like commodities

- VO 0051 **Peppers**  
(includes all commodities in this subgroup)
- **Bird chili peppers**, see Peppers, Chili  
*Capsicum Frutescens* L.
- **Cherry pepper**, see Peppers, Chili, VO 0444  
*Capsicum annuum* L., var. *acumimata* Fingerh.
- **Chili peppers**, see Peppers, Chili, VO 0444
- **Cluster pepper**, see Peppers, Chili, VO 0444  
*Capsicum annuum* L., var. *fasciculatum* (Sturt.) Irish
- **Cone pepper**, see Peppers, Chili, VO 0444
- **Lady's finger**, see Okra, VO 0442
- VO 2709 **Martynia**

- Proboscidea louisianica* (Mill.) Thell.
- VO 0442 **Okra**  
*Abelmoschus esculentus* (L.) Moench.
- **Paprika**, see Peppers, Sweet, VO 0445
- **Pimento or Pimiento**, see Peppers, Sweet, VO 0445
- **Peppers, bell**, see Peppers, Sweet, VO 0445
- VO 0444 **Peppers, Chili**  
*Capsicum annuum* L.; several pungent cultivars
- **Peppers, Long**, see Peppers, Sweet, VO 0445  
*Capsicum annuum* L., var. *longum* (D. C.) Sendt.
- VO 0445 **Peppers, Sweet** (including pimento or pimiento)  
*Capsicum annuum*, var. *grossum* (L.) Sendt. and var. *longum* (D. C.)  
Sendt.  
Peppers, Sweet Piquante  
*Capsicum battacum* var. Piquanté
- VO 0446 **Roselle**  
*Hibiscus sabdariffa* L., var. *sabdariffa* L.

### Group 12C Egg plant and egg plant-like commodities

- VO 2046 **Egg plants**  
(includes all commodities in this subgroup)
- VO 2711 **African Eggplant**  
*Solanum macrocarpon* L.
- **Aubergine**, see Egg plant, VO 0440
- VO 0440 **Egg plant**, various cultivars  
*Solanum melongena* L.
- **Melon pear**, see Pepino, VO 0443
- VO 2712 **Pea Eggplant**  
*Solanum torvum* Swartz
- VO 0443 **Pepino**  
*Solanum muricatum* L.
- VO 2713 **Scarlet Eggplant**  
*Solanum aethiopicum* L.
- VO 2714 **Thai eggplant**  
*Solanum undatum* Jacq. Non Lam.
- VO 0443 **Tree melon**, see Pepino

### Berries and other small fruits

#### Class A

#### **Type 1 Fruits Group 004 Group Letter Code FB**

Berries and other small fruits are derived from a variety of perennial plants and shrubs having fruit characterized by a high surface: weight ratio. The fruits are fully exposed to pesticides applied during the growing season (blossoming until harvest).

The entire fruit, often including seed, may be consumed in a succulent or processed form.

Five subgroups are defined:

Group 004 A Caneberries: includes berries originating from canes that are erect or trailing, mainly *Rubus* species

Group 004 B Bushberries: includes berries originating from woody shrubs

Group 004 C Large shrub/tree berries: includes berries originating from large shrubs or trees

Group 004 D Small fruit vine climbing: includes berries originating from climbing vines

Group 004 E Low growing berries: includes berries originating from low growing berries that are short shrubs or herbaceous plants

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of caps and stems. Currants, Black, Red, White: fruit with stem.**

## Group 004 Berries and other small fruits

<u>Code No.</u>	<u>Commodity</u>
FB 0018	<b>Berries and other small fruits</b> (includes all commodities in this group)

### Subgroup 004A Cane berries

<u>Code No.</u>	<u>Commodity</u>
FB 2005	<b>Cane berries</b> <i>Rubus</i> species (includes all commodities in this subgroup)
FB 0264	<b>Blackberries</b> <i>Rubus fruticosus</i> auct. aggr., several ssp.
-	<b>Boysenberry</b> , see Dewberries, FB 0266 Hybrid of <i>Rubus</i> spp.
FB 0266	<b>Dewberries</b> (including Boysenberry and Loganberry) <i>Rubus ceasius</i> L.; several <i>Rubus</i> ssp. and hybrids
-	<b>Korean Black Raspberry</b> , see Raspberries, Red, Black FB 0272 <i>Rubus coreanus</i> Miquel.
-	<b>Korean Raspberry</b> , see Raspberries, Red, Black FB 0272 <i>Rubus crataegifolius</i> Bunge
-	<b>Loganberry</b> , see Dewberries, FB 0266 <i>Rubus loganobaccus</i> L.H. Bailey, hybrid of <i>Rubus</i> spp.
-	<b>Olallie berry</b> , see Dewberries, FB 0266
FB 0272	<b>Raspberries, Red, Black</b> <i>Rubus idaeus</i> L.; <i>Rubus occidentalis</i> L.; several <i>Rubus</i> spp. and hybrids, including wild rasp berries <i>Rubus molluccanus</i> L.
-	<b>Youngberry</b> , see Dewberries, FB 0266 <i>Rubus ursinus</i> cv. Young

### Subgroup 004B Bush berries

<u>Code No.</u>	<u>Commodity</u>
FB 2006	<b>Bush berries</b> (includes all commodities in this subgroup)
FB 0019	<b>Vaccinium berries</b> , including Bearberry, except Cranberry <i>Vaccinium</i> spp.; <i>Arctostaphylos uva-ursi</i> (L.) Spreng.
FB 0020	<b>Blueberries</b> <i>Vaccinium corymbosum</i> L.; <i>Vaccinium angustifolium</i> Ait.; <i>Vaccinium virgatum</i> Aiton; <i>Gaylussacia</i> spp.
FB 2240	<b>Aronia berries</b>



	<i>Aronia</i> spp.
FB 0260	<b>Bearberry</b> <i>Arctostaphylos uva-ursi</i> (L.) Spreng.
FB 0261	<b>Bilberry</b> <i>Vaccinium myrtillus</i> L.
FB 0262	<b>Bilberry, Bog</b> <i>Vaccinium uliginosum</i> L.
FB 0263	<b>Bilberry, Red</b> <i>Vaccinium vitis-idaea</i> L.
-	<b>Blueberry, Highbush</b> , see Blueberries, FB 0020 <i>Vaccinium corymbosum</i> L.
-	<b>Blueberry, Lowbush</b> , see Blueberries, FB 0020 <i>Vaccinium angustifolium</i> Ait.
-	<b>Blueberry, Rabbiteye</b> , see Blueberries, FB 0020 <i>Vaccinium virgatum</i> Aiton
FB 2241	<b>Buffalo currant</b> <i>Ribes aureum</i> var. <i>villosum</i> DC. (Syn: <i>Ribes odoratum</i> H.Wendl)
FB 2242	<b>Chilean guava</b> <i>Ugni molinae</i> Turcz. (syn: <i>Myrtus ugni</i> Mol.)
-	<b>Cowberry</b> , see Bilberry, Red, FB 0263
FB 0021	<b>Currants, Black, Red, White</b> <i>Ribes nigrum</i> L.; <i>R. rubrum</i> L.
FB 0278	<b>Currant, Black</b> , see also Currants, Black, Red, White <i>Ribes nigrum</i> L.
FB 0279	<b>Currant, Red, White</b> , see also Currants, Black, Red, White <i>Ribes rubrum</i> L.
FB 0268	<b>Gooseberry</b> <i>Ribes uva-crispa</i> L. (syn: <i>R. grossularia</i> L.)
FB 2243	<b>European barberry</b> <i>Berberis vulgaris</i> L.
-	<b>European Blueberry</b> , see bilberry FB 0261
FB 2244	<b>Huckleberries</b> 1. Blueberries, see above FB 0020 2. <i>Gaylussacia</i> spp., see Blueberries FB 0020 Red Huckleberry ( <i>Vaccinium parvifolium</i> L.)
FB 2245	<b>Jostaberries</b> <i>Ribes x nidigrolaria</i> Rud. Bauer & A. Bauer
FB 0270	<b>Juneberries</b> <i>Amelanchier</i> spp.
FB 2246	<b>Native currant</b> <i>Acrotriche depressa</i> R. Br.
FB 2247	<b>Riberries</b> <i>Syzygium leuhmannii</i>
FB 0273	<b>Rose hips</b> <i>Rosa</i> L., several spp.
FB 2248	<b>Salal</b>

	<i>Gaultheria shallon</i> Pursh
FB 2249	<b>Sea buckthorn</b>
	<i>Hippophae rhamnoides</i> L.
-	<b>Whortleberry, Red</b> , see Bilberry, Red, FB 0263
<b>Subgroup 004C</b>	<b>Large shrub/tree berries</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FB 2007	<b>Large shrub/tree berries</b> (includes all commodities in this subgroup)
FB 2250	<b>Bayberries</b> <i>Morella</i> spp.
FB 2251	<b>Buffaloberry</b> <i>Shepherdia argentea</i> (Pursh) Nutt.
FB 2252	<b>Che</b> <i>Maclura tricuspidata</i> Carrière
FB 0267	<b>Elderberries</b> <i>Sambucus</i> spp.
FB 2253	<b>Guelder rose</b> <i>Viburnum opulus</i> L.
FB 0271	<b>Mulberries</b> <i>Morus alba</i> L.; <i>Morus nigra</i> L.; <i>Morus rubra</i> L.
FB 2254	<b>Phalsa</b> <i>Grewia asiatica</i> L.
-	<b>Rowan</b> , see Service berries, FB 0274 <i>Sorbus aucuparia</i> L.
FB 0274	<b>Service berries</b> 1. see Juneberries 2. <i>Sorbus torminalis</i> (L.) Crantz; <i>Sorbus domestica</i> L. <i>S. aucuparia</i> L.
FB 2255	<b>Silverberry, Russian</b> <i>Elaeagnus augustifolia</i> L.
<b>Subgroup 004D</b>	<b>Small fruit vine climbing</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FB 2008	<b>Small fruit vine climbing</b> (includes all commodities in this subgroup)
FB 2256	<b>Arguta kiwifruit</b> <i>Actinidia arguta</i> (Siebold & Zucc.) Planch. ex. Miq.
FB 2257	<b>Amur river grape</b> <i>Vitis amurensis</i> Rupr.
FB 0269	<b>Grapes</b> <i>Vitis vinifera</i> L., several cultivars
FB 2258	<b>Schisandrberry</b> <i>Schisandra chinensis</i> (Turcz.) Baill.
FB 1235	<b>Table-grapes</b> Special cultivars of <i>Vitis vinifera</i> L., suitable for direct human consumption

-	<b>Tara vine</b> , see Arguta kiwifruit, FB 2255
FB 1236	<b>Wine-grapes</b> Special cultivars of <i>Vitis vinifera</i> L., suitable for preparing juice and fermenting into wine
<b>Subgroup 004E Low growing berries</b>	
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FB 2009	<b>Low growing berries</b> (includes all commodities in this subgroup)
-	<b>Bakeapple</b> , see Cloudberry, FB 0277
FB 0265	<b>Cranberry</b> <i>Vaccinium macrocarpon</i> Aiton
FB 0277	<b>Cloudberry</b> <i>Rubus chamaemorus</i> L.
FB 2259	<b>Muntries</b> <i>Kunzea pomifera</i> F. Muell.
FB 2260	<b>Partridge berry</b> <i>Mitchella repens</i> L.
-	<b>Squaw vine</b> , see Partridge berry, FB 2259
FB 0275	<b>Strawberry</b> <i>Fragaria x ananassa</i> Duchene ex Rozier
FB 0276	<b>Strawberries, Wild</b> <i>Fragaria vesca</i> L.; <i>Fragaria moschata</i> Duchene
-	<b>Strawberry , Musky</b> , see Strawberries wild, FB 0276 <i>Fragaria moschata</i> Duchene

Edible fungiClass A**Type 1            Vegetables            Group 18            Group Letter Code VF**

Edible Fungi are derived from lower plants. The fruiting bodies could be fully exposed to pesticides during the growing season.

The entire fruiting body may be consumed in a succulent or processed form.

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of soil and growing medium**

**Group 18****Edible Fungi**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VF 2084	<b>Edible fungi</b> Various edible species of fungi, wild and cultivated.
VF 0449	<b>Fungi, Edible, except Mushrooms</b> According to Codex Stand. 38-1981: various edible species of fungi, mainly wild, among others <i>Boletus edulis</i> ; other <i>Boletus</i> spp, <i>Morchella</i> spp, <i>Pleurotus ostreatus</i>
VF 0450	<b>Mushrooms</b> Cultivated cultivars of <i>Agaricus</i> spp. (included Royal sun agaricus = Hime-Matsutake ( <i>Agaricus brasiliensis</i> ), Rodman's agaricus, White button mushroom)

- syn: *Psalliota* spp., mainly *Agaricus bisporus* (definition Codex Stand. 55-1981)
- **Bearded tooth**, see Pom pom, VF 3065
  - **Beech mushroom**, see Bunashimeji, VF 3052
  - VF 3050 **Black poplar mushroom**  
*Agrocybe aegerita* (V. Brig.) Singer
  - VF 3051 **Blewitt**  
*Lepista nuda* (Bull.) Cooke
  - VF 3052 **Bunashimeji**  
*Hypsizygus marmoreus* (Peck) H.E. Bigelow, *H. tessulatus* (Bull.) Singer
  - VF 3053 **Cauliflower mushroom**  
*Sparassis crispa* (Wulfen) Fr.
  - VF 3054 **Cep**  
*Boletus edulis* Bull. and other *Boletus* spp.
  - VF 3055 **Chanterelle**  
*Cantharellus cibarius* Fr. (Codex Stand. 40-1981)
  - VF 3056 **Enoke**  
*Flammulina velutipes* (curtis) Singer
  - **Enoki mushroom**, see Enoke, VF 3056
  - **Hen-of-the-Woods mushroom**, see Maitake, VF 3059
  - VF 3057 **Hirmeola**  
*Auricularia auricular-judea* (Fr.) J. Schröt (Syn. *Auricularia auricular* (Hook.f.)Underw.)
  - VF 3058 **Ink mushroom**  
*Coprinus comatus* (O.F. Müll.) Persoon
  - **Jews ear mushroom**, see Hirmeola, VF 3057
  - **Lion's mane mushroom**, see Pom pom, VF 3065
  - VF 3059 **Maitake**  
*Grifola frondosa* (Dicks) Gray
  - VF 3060 **Morel**  
*Morchella* spp.
  - VF 3061 **Nameko**  
*Pholiota nameko* (T. Ito) S. Ito & S. Imai and other *Pholiota* spp.
  - VF 3062 **Net bearing Dictyophora**  
*Phallus impudicus* L.
  - **Oakwood mushroom**, see Shiitake mushroom, VF 3067
  - VF 3063 **Oyster mushroom**  
*Pleurotus ostreatus* (Jacq.) P. Kumm and other *Pleurotus* spp., including grey- oyster mushroom, abalone mushroom
  - **Paddy straw mushroom**, see Straw mushroom, VF 3059
  - VF 3064 **Pine mushroom**  
*Tricholoma matsutake* (S. Ito & Imai) Singer
  - VF 3065 **Pom pom**  
*Hericum erinaceus* (Bull.) Pers.
  - VF 3066 **Reishi mushroom**  
*Ganoderma lucidum* (Curtis) P. Karst. and other *Ganoderma* spp.
  - VF 3067 **Shiitake mushroom**

	<i>Lentinula edodes</i> (Berk.) Pegler
VF 3068	<b>Shimeji</b> <i>Lyophyllum fumosum</i> (Pers.) P.D. Orton (syn: <i>Tricholoma conglobatum</i> (Vitt.) Ricken) and other <i>Lyophyllum</i> spp.
-	<b>Slimy mushroom</b> , see Nameko, VF 3061
VF 3069	<b>Straw mushroom</b> <i>Volvariella volvacea</i> (Bull.) Singer
VF 3070	<b>Stropharia</b> <i>Stropharia</i> spp. <i>Stropharia rugosoannulata</i> Farl. ex Murrill
VF 3071	<b>Truffle</b> <i>Tuber</i> spp.
VF 3072	<b>Wangsongi</b> <i>Macrocybe gigantea</i> (Masse) Pegler & Lodge (syn : <i>Tricholoma giganteum</i> Masse)
-	<b>Winter mushroom</b> , see Enoke, VF 3056
VF 3073	<b>White jelly mushroom</b> <i>Tremella fuciformis</i> Berk.
VF 3074	<b>Wood ears mushroom</b> , <i>Auricularia polytricha</i> (Mont.)Sacc.

## Citrus fruits

### Class A

#### **Type 1            Fruits        Group 001    Group Letter Code FC**

Citrus fruits are produced on trees or shrubs of the family Rutaceae. Aromatic oily peel, globular form and interior segments of juice-filled vesicles characterize these fruits. The fruit is fully exposed to pesticides during the growing season. Post-harvest treatments with pesticides and liquid waxes are often carried out to avoid deterioration during transport and distribution due to fungal diseases, insect pests or loss of moisture.

The fruit pulp may be consumed in succulent form and as juice. The entire fruit may be used for preserves.

Group 001A Lemons and Limes: Hybrids and related species similar to lemons and limes

Group 001B Mandarins: Hybrids and related species similar to mandarins

Group 001C Oranges, Sweet, Sour: Hybrids and related species similar to oranges

Group 001D Pummelos: Hybrids and related species

Portion of the commodity to which the MRL applies (and which is analyzed): **Whole commodity.**

### **Group 001 Citrus fruits**

#### Code No.        Commodity

FC 0001        **Citrus Fruit**  
(includes all commodities in this group)

#### **Subgroup 001A Lemons and Limes**

#### Code No.        Commodity

FC 0002        **Lemons and Limes** (including Citron)  
- *Citrus limon* Burm.f.;  
- *Citrus aurantiifolia* Swingle;

- *Citrus medica* L.;
- Hybrids and related species similar to lemons and limes including *Citrus jambhiri* Lush *Citrus limetta* Risso; *Citrus limettoides* Tan.; *Citrus limonia* Osbeck.
- Synonyms: see specific fruit species  
(includes all commodities in this subgroup)
- FC 2201 **Australian blood lime**, see also Lemons and Limes, FC 0002  
*Microcitrus australasica* (F. Muell.) Swingle  
synonyms: *Citrus australasica* F. Muell.
- FC 2202 **Australian desert lime**, see also Lemons and Limes, FC 0002  
*Eremocitrus glauca* (Linl.) Swingle  
synonyms: *Citrus glauca* (Lindl) Burkill
- FC 2203 **Australian round lime**, see also Lemons and Limes, FC 0002  
*Microcitrus australis* (A. Cunn. ex Mudie) Swingle  
synonyms: *Citrus australis* (A. Cunn. ex Mudie) Planch.
- FC 2204 **Brown River finger-lime**, see also Lemons and Limes, FC 0002  
*Microcitrus papuana* Winters  
*Citrus wintersii* Mabb.
- FC 0202 **Citron**, see also Lemons and Limes, FC 0002  
*Citrus medica* L.;
- syn: *Citrus cedra* Link; *Citrus cedratus* Raf.;
- Citrus medica genuina* Engl.; *Citrus medica* proper Bonavia
- FC 0204 **Lemon**, see also Lemons and Limes, FC 0002  
*Citrus limon* Burm. f.;
- syn: *Citrus medica limon* L.; *Citrus limonum* Risso; *Citrus medica limonum* Hook. F.; *Citrus jambhiri* Lush.
- FC 0205 **Lime**, see Codex stan. 217-1999, Amd. 1-2005, see also Lemons and Limes, FC 0002  
*Citrus aurantiifolia* Swingle;
- syn: *Limonia aurantiifolia* Christm.; *L. acidissima* Houtt. *Citrus lima* Lunan.; *Citrus acida* Roxb.; *Citrus limonellus* Hassk.
- FC 2205 **Lime, Sweet**, see also Lemons and Limes, FC 0002  
*Citrus limetta* Risso  
syn: *Citrus limettoides* Tan., *Citrus lumia* Risso)
- FC 2206 **Kaffir lime**  
*Citrus hirtix* DC.
- **Mexican Lime**, see Codex stan. 217-1999, see Lime, FC 0205  
*Citrus aurantifolia* Swingle see, Amd. 1-2005
- FC 2207 **Mount White-lime**, see also Lemons and Limes, FC 0002  
*Microcitrus garrowayae* (F. M. Bailey) Swingle
- FC 2208 **New Guinea wild lime**, see also Lemons and Limes, FC 0002  
*Microcitrus warburgiana* (F. M. Bailey) Tanaka
- FC 2209 **Russell River-lime**, see also Lemons and Limes, FC 0002  
*Microcitrus inodora* (F. M. Bailey) Swingle  
syn: *Citrus inodora* (F. M. Bailey)
- FC 2210 **Tahiti Lime**, see Codex stan. 213-1999, Amd. 3-2005,  
see also Lemons and Limes, FC 0002  
*Citrus latifolia* Tan.
- FC 2211 **Yuzu**, see also Lemons and Limes, FC 0002

*Citrus junos* Siebold ex Tanaka**Subgroup 001B Mandarins**

<u>Code No.</u>	<u>Commodity</u>
FC 0003	<p><b>Mandarins</b> (including Mandarin-like hybrids)</p> <p>- <i>Citrus reticulata</i> Blanco;</p> <p>Hybrids and related species including <i>Citrus nobilis</i> Lour.:</p> <p><i>Citrus deliciosa</i> Ten.; <i>Citrus tangarina</i> Hort.; <i>Citrus mitis</i> Blanco</p> <p>syn: <i>Citrus madurensis</i> Lour.; <i>Citrus unshiu</i> Marcow;</p> <p>synonyms: see specific fruit species Mandarin</p> <p>(includes all commodities in this subgroup)</p>
FC 0201	<p><b>Calamondin</b>, see also Mandarins, FC 0003</p> <p><i>Citrus mitis</i> Blanco;</p> <p>syn: <i>Citrus madurensis</i> Lour. (hybrid of <i>Citrus reticulata</i> Blanco.</p> <p>var. <i>austera</i> Swing x <i>Fortunella</i> sp.)</p>
-	<p><b>Clementine</b>, see Mandarins, FC 0003</p> <p><i>Citrus clementina</i> Hort. Ex Tanaka cultivar of <i>Citrus reticulata</i> Blanco (possibly natural hybrid of Mandarin x Orange, Sweet)</p>
-	<p><b>Cleopatra mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus reshni</i> Hort. Ex Tan.</p>
-	<p><b>Dancy</b> or <b>Dancy mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus tangerina</i> Hort.</p>
-	<p><b>King mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus nobilis</i> Lour. (= hybrid of Mandarin x Orange, Sweet)</p>
FC 0206	<p><b>Mandarin</b>, see also see Mandarins, FC 0003</p> <p><i>Citrus reticulata</i> Blanco;</p> <p>syn: <i>Citrus nobilis</i> Andrews (non Lour.); <i>Citrus poonensis</i> Hort. Ex Tanaka; <i>Citrus chrysocarpa</i> Lush.</p>
-	<p><b>Mediterranean mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus deliciosa</i> Ten (= hybrid of Mandarin x Orange, Sweet)</p>
-	<p><b>Satsuma</b> or <b>Satsuma mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus unshiu</i> Marcow.</p>
-	<p><b>Tangelo</b>, small and medium sized cultivars, see Mandarins, FC 0003</p> <p>Hybrids of Mandarin x Grapefruit or Mandarin x Shaddock</p>
-	<p><b>Tangerine</b>, see Mandarins, FC 0003</p> <p><i>Citrus reticulata</i> Blanco;</p> <p>Syn: <i>Citrus tangarina</i> Hort. Ex Tan. <i>Citrus ponnensis</i> Hort., <i>Citrus Chyrosocarpa</i> Lush., <i>Citrus Reshni</i> Hort.</p>
-	<p><b>Tangors</b>, see Mandarins, FC 0003</p> <p><i>Citrus nobilis</i> Lour. (= Hybrid of Mandarin x Orange, sweet) ;</p>
-	<p><b>Tankan mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus reticulate</i> Blanco <i>tankan</i> Hyata (= probably hybrid of Mandarin x Orange, Sweet)</p>
FC 2212	<p><b>Unshu orange</b>, see also Mandarins, FC 0003</p> <p><i>Citrus reticulata</i> Blanco ssp. <i>unshiu</i> (Marcow.) D.Rivera Núñez et al.</p>
-	<p><b>Willowleaf mandarin</b>, see Mandarins, FC 0003</p> <p><i>Citrus deliciosa</i> Ten. (= hybrid of Mandarin and Orange, sweet)</p>

**Subgroup 001C Oranges, Sweet, Sour**

<u>Code No.</u>	<u>Commodity</u>
FC 0004	<b>Oranges, Sweet, Sour</b> (including Orange-like hybrids) several cultivars: - <i>Citrus sinensis</i> Osbeck; - <i>Citrus aurantium</i> L.; Hybrids and related species: <i>Citrus myrtifolia</i> Raf.; <i>Citrus salicifolia</i> Raf.; synonyms: see specific fruit species (includes all commodities in this subgroup)
-	<b>Bergamot</b> , see Oranges, Sweet, Sour, FC 0004 <i>Citrus aurantium</i> ssp <i>bergamia</i>
-	<b>Bigarade</b> , see Orange, Sour FC 0207 <i>Citrus aurantium</i> L.
-	<b>Blood orange</b> , see Orange, Sweet, FC 0208 Cultivar of <i>Citrus sinensis</i> Osbeck
-	<b>Chinotto</b> , see Orange, Sour, FC 0207 <i>Citrus aurantium</i> L., var. <i>myrtifolia</i> Ker-Gawler; syn: <i>Citrus myrtifolia</i> Raf.
-	<b>Chironja (orangelo)</b> , see Oranges, Sweet, Sour, FC 0004 <i>Citrus sinensis</i> x <i>Citrus paradise</i> (= Hybrid of Orange, Sweet x Mandarin)
	Ichang Bitter Orange, see Orange, Sweet, FC 0208 <i>Citrus ichangensis</i> Swingle
-	<b>Malta orange</b> , see Blood Orange
-	<b>Myrtle-leaf orange</b> , see Chinotto
-	<b>Orange, Bitter</b> , (=bigarade) see Orange, Sour FC 0207
FC 0207	<b>Orange, Sour</b> , see also see Oranges, Sweet, Sour, FC 0004 <i>Citrus aurantium</i> L.; syn: <i>Citrus vulgaris</i> Risso; <i>Citrus bigarradia</i> Loisel; <i>Citrus communis</i> Le Maout & Dec.
FC 0208	<b>Orange, Sweet</b> , See Codex stan. 245-2004 Amd 1-2005, see also see Oranges, Sweet, Sour, FC 0004 <i>Citrus sinensis</i> Osbeck; syn: <i>Citrus aurantium sinensis</i> L.; <i>Citrus dulcis</i> Pers.; <i>Citrus aurantium vulgare</i> Risso & Poit.; <i>Citrus aurantium dulce</i> Hayne
-	<b>Seville Orange</b> , see Orange, Sour, FC 0207
-	<b>Tachibana orange</b> see Oranges, Sweet, Sour, FC 0004 <i>Citrus tachibana</i> (Makino) Tanaka Syn: <i>Citrus aurantium</i> L. var. <i>tachibana</i> Makino; <i>Citrus depressa</i>
FC 2213	<b>Trifoliate orange</b> see also Oranges, Sweet, Sour, FC 0004 <i>Poncirus trifoliate</i> (L.) Raf.

**Subgroup 001D Pummelos**

<u>Code No.</u>	<u>Commodity</u>
FC 0005	<b>Pummelo and Grapefruits</b> (including Shaddock-like hybrids, among others Grapefruit) <i>Citrus maxima</i> (Burm.) Merr.



- Syn: *Citrus Grandis* L. Osbeck; *Citrus paradisi* Macf.; *Citrus decumana* L.  
 Hybrids and related species, similar to Shaddocks, including *Citrus natsudaidai* Hayata;  
 Tangelos large sized (= hybrid, Grapefruit x Mandarin); Tangelolos: (hybrid, Grapefruit x  
 Tangelo): synonyms: see specific fruit species  
 (includes all commodities in this subgroup)
- FC 0203 **Grapefruit**, see Codex stan. 219-1999 Amd 2-2005, see also Pummelo and Grapefruits,  
 FC 0005  
 Hybrid of Shaddock x Orange, Sweet  
*Citrus paradisi* Macf.;  
 syn: *Citrus maxima uvacarpa* Merr. & Lee.
- **Natsudaidai**, see Pummelo and Grapefruits, FC 0005  
*Citrus natsudaidai* Hayata (possibly natural hybrid of Mandarin x Shaddock)
- **Pomelo**, see Pummelo and Grapefruits, FC 0005
- FC 0209 **Pummelo**, see Codex stan. 214-1999, Amd 2-2005, see Pummelo and Grapefruits, FC  
 0005  
*Citrus maxima* (Burm.) Merr.  
 syn: *Citrus grandis* L. Osbeck; *Citrus aurantium decumana* L.; *Citrus decumana* Murr.
- **Shaddock**, see also Pummelo and Grapefruits, FC 0005  
*Citrus maxima* (Burm.) Merr.;
- **Tangelo**, large-sized cultivars, see Pummelo and Grapefruits, FC 0005  
*Citrus x tangelo* J.W. Ingram & H.E. Moore;
- **Tangelolo**, see Pummelo and Grapefruits, FC 0005  
 Hybrids of Grapefruit x Tangelo
- **Ugli/Uniq fruit (=tangelo)**, see Pummelo and Grapefruits, FC 0005  
 Cultivar of Tangelo, large sized fruit cultivar, see there  
*Citrus reticulata x Citrus paradisi*

## Pome fruits

### Class A

#### **Type 1                  Fruits                  Group 002                  Group Letter Code FP**

Pome fruits are produced on trees and shrubs belonging to certain genera of the rose family (Rosaceae), especially the genera *Malus* and *Pyrus*. They are characterized by fleshy tissue surrounding a core consisting of parchment-like carpels enclosing the seeds.

Pome fruits are fully exposed to pesticides applied during the growing season. Post-harvest treatments directly after harvest may also occur. The entire fruit, except the core, may be consumed in the succulent form or after processing.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stems.**

### **Group 002 Pome fruits**

<u>Code No.</u>	<u>Commodity</u>
FP 0009	<b>Pome fruits</b> (includes all commodities in this group)
FP 0226	<b>Apple</b> <i>Malus domestica</i> Borkhausen

FP 2220	<b>Azarole</b> <i>Crataegus azarolus</i> L.
FP 2221	<b>Chinese quince</b> <i>Chaenomeles speciosa</i> (sweet) Nakai
FP 0227	<b>Crab-apple</b> <i>Malus</i> spp.; among other <i>Malus baccata</i> (L.) Borkh. var <i>baccata</i> ; <i>M. prunifolia</i> (Willd.) Borkh.
-	<b>Japanese medlar</b> , see Loquat, FP 0228
FP 0228	<b>Loquat</b> <i>Eriobotrya japonica</i> (Thunberg ex J.A. Murray) Lindley
FP 2222	<b>Mayhaw</b> <i>Crataegus</i> spp.
FP 0229	<b>Medlar</b> <i>Mespilus germanica</i> L.
-	<b>Nashi pear</b> , see Pear, Oriental
FP 0230	<b>Pear</b> <i>Pyrus communis</i> L.; <i>P. pyrifolia</i> (Burm.) Nakai; <i>P. bretschneideri</i> Rhd.; <i>P. sinensis</i> L.
-	<b>Pear, Oriental</b> , see Pear, FP 0230 <i>Pyrus pyrifolia</i> (Burm.) Nakai
FP 0231	<b>Quince</b> <i>Cydonia oblonga</i> P. Miller; syn: <i>Cydonia vulgaris</i> Persoon
-	<b>Sand pear</b> , see Pear, Oriental
FP 2223	<b>Tejocote</b> <i>Crataegus mexicana</i> DC.
FP2224	<b>Wild pear</b> <i>Pyrus elaeagrifolia</i> Pallas

## **Stone fruits**

### **Class A**

#### **Type 1            Fruits            Group 003            Group Letter Code FS**

Stone fruits are produced on trees belonging to the genus *Prunus* of the rose family (Rosaceae). They are characterized by fleshy tissue surrounding a single hard shelled seed. The fruit is fully exposed to pesticides applied during the growing season (from fruit setting until harvest). Dipping of fruit immediately after harvest, especially with fungicides, may also occur.

The entire fruit, except the seed, may be consumed in a succulent or processed form.

Group 003 A Cherries: Cherry and related species of *Prunus*, which produce stone fruits similar to cherry

Group 003 B Plums: Plum and related species of *Prunus*, which produce stone fruits similar to plum

Group 003 C Peaches: Peach, nectarine, apricot and related species of *Prunus*, which produce stone fruits similar to peach, nectarine and apricot.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stems and stones, but the residue is calculated and expressed on the whole commodity without stem.**

### **Group 003 Stone fruits**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
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FS 0012           **Stone fruits**  
                           *Prunus* spp. (includes all commodities in this group)

**Subgroup 003A           Cherries**

**Code No.           Commodity**

FS 0013           **Cherries**

(includes all commodities in this subgroup)

-                   **Capulin**, see Cherry, black, FS 2230

*Prunus serotina* Ehrh. subsp. *capuli*

FS 2230           **Cherry, black** (including capulin)

*Prunus serotina* Ehrh. subsp. *Serotina*;

*Prunus serotina* Ehrh. subsp. *capuli*

FS 2231           **Cherry, Nanking**

*Prunus tomentosa* Thunb.

FS 0243           **Cherry, Sour**

*Prunus cerasus* L.

FS 0244           **Cherry, Sweet**

*Prunus avium* L.

-                   **Cherry, tart**, see Cherry, Sour, FS 0243

FS 2232           **Choke cherry**

*Prunus virginiana* L.

-                   **Morello**, see Cherry, Sour, FS 0243

*Prunus cerasus* L., var. *austera* L.

**Subgroup 003B           Plums**

**Code No.           Commodity**

FS 0014           **Plums** (including Prunes)

*Prunus domestica* L.; other *Prunus* spp and ssp.

(includes all commodities in this subgroup)

FS 0241           **Bullace**

*Prunus insititia* L.;

syn: *Prunus domestica* L., ssp. *insititia* (L.) Schneider

FS 0242           **Cherry plum**

*Prunus cerasifera* Ehrhart, syn: *P. divaricata* Ledebouer *P. salicina* Lindl., var. Burbank

-                   **Chickasaw plum**, see Plum, Chickasaw, FS 0248

-                   **Damsons (Damson plums)**, see Plum, Damson

-                   **Greengages (Greengage plums)**, see Plum, Greengage

FS 2233           **Klamath plum,**

*Prunus subcordata* Benth.

-                   **Mirabelle**, see Plum, Mirabelle

-                   **Myrobolan plum**, see Cherry plum, FS 0242

FS 2234           **Plum**

*Prunus domestica* L.

-                   **Plum, American**, see Sloe, FS 0249

*Prunus americana* Marshall

FS 2235	<b>Plum, beach</b> <i>Prunus maritime</i> Marshall
FS 0248	<b>Plum, Chickasaw</b> <i>Prunus angustifolia</i> Marsh.; syn: <i>P. Chicasaw</i> Mich.
-	<b>Plum, Damson</b> , see Bullace, FS 0241
-	<b>Plum, Greengage</b> , see Plums, FS 0014 <i>Prunus insititia</i> L., var. <i>italica</i> (Borkh.) L.M Neum.
-	<b>Plum, Japanese</b> , see Plums, FS 0014 <i>Prunus salicina</i> Lindley; syn: <i>P. triflora</i> Roxb.
-	<b>Plum, Mirabelle</b> , see Bullace, FS 0241 <i>Prunus insititia</i> L., var. <i>syrriaca</i> ; syn: <i>P. domestica</i> L., ssp <i>insititia</i> (L.) Schneider
FS 2236	<b>Plumcot</b> <i>Prunus domestica</i> x <i>P. armeniaca</i>
-	<b>Prunes</b> , see Plums, FS 0014
FS 0249	<b>Sloe</b> <i>Prunus spinosa</i> L.; several wild <i>Prunus</i> spp.

**Subgroup 003A****Peaches****Code No.****Commodity**

FS 2001	<b>Peaches</b> (including Nectarine and Apricots) (includes all commodities in this subgroup)
FS 0240	<b>Apricot</b> <i>Prunus armeniaca</i> L.; syn: <i>Armeniaca vulgaris</i> Lamarck
FS 2237	<b>Japanese apricot</b> <i>Prunus mume</i> Siebold & Zucc.
FS 0245	<b>Nectarine</b> <i>Prunus persica</i> (L.) Batch, var. <i>nectarina</i>
FS 0247	<b>Peach</b> <i>Prunus persica</i> (L.) Batsch; syn: <i>P. vulgaris</i> Mill.

**Oilseed****Class A****Type 4                      Nuts and seeds    Group 023    Group Letter Code SO**

Oilseed consists of seeds from a variety of plants used in the production of edible vegetable oils, seed meals and cakes for animal feed. Some important vegetable oil seeds are by-products of fibre or fruit crops (e.g. cotton seed, olives).

Some of the oilseeds are, directly or after slight processing (e.g. roasting), used as food (e.g. peanuts) or for food flavouring (e.g. poppy seed, sesame seed).

Oilseeds are protected from pesticides applied during the growing season by the shell or husk of fruit flesh.

The group Oilseed is divided into five subgroups:

023A Small seed oilseeds

- 023B Sunflower seeds  
 023C Cottonseed  
 023D Other oilseeds  
 023E Oilfruits (fruits of palm trees)

Portion of the commodity to which the MRL applies (and which is analysed): Oilseeds: Unless specified, seed or kernels, after removal of shell or husk. Oilfruits: whole commodity

## Group 023 Oilseed

<u>Code No.</u>	<u>Commodity</u>
SO 0088	<b>Oilseed</b> (rape seeds, sunflowerseeds, cotton seeds and other oilseeds) (includes all commodities in this group)
SO 0089	<b>Oilseed, except peanut</b>

### Subgroup 023A Small seed oilseeds

<u>Code No.</u>	<u>Commodity</u>
SO 2090	<b>Rape seeds</b> (includes all commodities in this subgroup)
SO 0090	<b>Mustard seeds</b> (Mustard seed; Mustard seed, Field; Mustards seed, Indian)
SO 3140	<b>Borage seed</b> <i>Borago officinalis</i> L.
-	<b>Colza</b> , see Rape seed, SO 0495
-	<b>Colza, Indian</b> , see Mustard seed, Field, SO 0694
-	<b>Canola</b> , see Rape seed, SO 0495
-	<b>Flax-seed</b> , see Linseed, SO 0693
SO 3141	<b>Gold of pleasure seed</b> <i>Camelina sativa</i> (L.) Crantz
SO 3142	<b>Hare's ear mustard seed</b> <i>Congringia orientalis</i> (L.) Dumort
SO 3143	<b>Lesquerella seed</b> (gaslight bladderpod) <i>Lesquerella recurvata</i> (Engelm. ex. A. Gray) S. Watson
SO 0693	<b>Linseed</b> <i>Linum usitatissimum</i> L.
SO 3144	<b>Meadow foam seed</b> <i>Limnanthes alba</i> Hartw. ex Benth.
SO 0485	<b>Mustard seed</b> <i>Brassica nigra</i> (L.) Koch; <i>Sinapis alba</i> L. Synonym: <i>Brassica hirta</i> Moench.
SO 0694	<b>Mustard seed, Field</b> <i>Brassica campestris</i> L., var. <i>sarson</i> Prain; <i>B. campestris</i> L., var. <i>toria</i> Duthie & Fuller
SO 0478	<b>Mustard seed, Indian</b> <i>Brassica Juncea</i> (L.) Czern. & Coss.
SO 3145	<b>Perilla seed</b> <i>Perilla frutescens</i> (L.) Britton var. <i>frutescens</i>
SO 0698	<b>Poppy seed</b>

- Papaver somniferum* L.  
 SO 0495 **Rape seed**  
*Brassica napus* L.  
 - **Rape seed, Indian**, see Mustard seed, Field, SO 0478  
*Brassica campestris* L., var. *toria* Duthie & Fuller  
 SO 0700 **Sesame seed**  
*Sesamum indicum* L.  
 Synonym: *S. orientale* L.

**Subgroup 023B Sunflower seeds**

- | <u>Code No.</u> | <u>Commodity</u>  |
|-----------------|---|
| SO 2091         | <b>Sunflower seeds</b><br>(includes all commodities in this subgroup)   |
| SO 3146         | <b>Jojoba seed</b><br><i>Simmondsia chinensis</i> (Link) C. K. Schneid. |
| SO 0695         | <b>Niger seed</b><br><i>Guizotia abyssinica</i> (L.) Cass.              |
| SO 0699         | <b>Safflower seed</b><br><i>Carthamus tinctorius</i> L.                 |
| SO 0702         | <b>Sunflower seed</b><br><i>Helianthus annuus</i> L.                    |
| SO 3147         | <b>Tallowwood nut</b><br><i>Ximenia americana</i> L.                    |
| SO 3148         | <b>Tea oil plant</b><br><i>Camellia oleifera</i> C. Abel                |

**Subgroup 023C Cotton seed**

- |         |  |
|---------|--|
| SO 0691 | <b>Cotton seed</b><br><i>Gossypium</i> spp.; several species and cultivars |
|---------|--|

**Subgroup 023D Other oilseeds**

- | <u>Code No.</u> | <u>Commodity</u>   |
|-----------------|--|
| SO 3150         | <b>American oil palm seed</b><br><i>Elaeis oleifera</i> (Kunth) Cortés                               |
| SO 3151         | <b>Babassu seed</b><br><i>Attalea speciosa</i> Mart. Ex Spreng                                       |
| SO 0690         | <b>Ben Moringa seed</b><br><i>Moringa oleifera</i> Lam.<br>Synonyms: <i>M. pterygosperma</i> Gaertn. |
| -               | <b>Coconut</b> , see Group 022: Tree nuts, TN 0665   |
| SO 3152         | <b>Coyoli palm seed</b><br><i>Acrocomia aculeata</i> (Jacq.) Lodd. ex Mart.                          |
| -               | <b>Drumstick tree seed</b> , see Ben Moringa seed, SO 0690   |
| SO 3153         | <b>Grape seed</b><br><i>Vitis vinifera</i> L., several cultivars                                     |
| -               | <b>Groundnut</b> , see Peanut, SO 0697   |

- SO 3154     **Hempseed**  
               *Cannabis sativa* L. var. *sativa*
- **Horseradish tree seed**, see Ben Moringa seed, SO 0690
- SO 0692     **Kapok**  
               *Ceiba pentandra* (L.) Gaertn.
- **Karite nuts**, see Shea nuts SO 0701
- **Maize**, see Group 020: Cereal grains
- SO 3155     **Melon seed**  
               *Cucumis melo* L. spp. several species and cultivars
- **Palm kernel**, see Palm nut, SO 0696
- SO 0696     **Palm nut**  
               *Elaeis guineensis* Jacq.
- SO 0697     **Peanut**  
               *Arachis hypogaea* L.
- SO 0703     **Peanut, whole**
- SO 3156     **Pumpkin seed**  
               *Cucurbita pepo* L. ssp. *pepo*
- SO 0701     **Shea nuts**  
               *Butyrospermum paradoxum* (Gaertn.) Hepper, subsp. *parkii* (G. Don.) Hepper  
               Synonym: *B. parkii* (G. Don.) Kotsky
- **Soya bean (dry)**, see Group 015: Pulses, VD 0541
- **Soybean (dry)**, see Soya bean (dry)

**Subgroup 23 E Oilfruits**

- | <u>Code No.</u> | <u>Commodity</u>   |
|-----------------|--|
| SO 2093         | <b>Oilfruits</b><br>(includes all commodities in this subgroup)  |
| SO 3158         | <b>American oil palm fruit</b><br><i>Elaeis oleifera</i> (Kunth) Cortés  |
| -               | <b>Desert date</b> , see Group 005: Assorted topical and sub-tropical fruits - edible peel, FT 0296  |
| SO 3159         | <b>Maripa palm fruit</b><br><i>Attalea maripa</i> (Aubl.) Mart   |
| SO 0305         | <b>Olives for oil production</b><br><i>Olea europaea</i> L., var. <i>europaea</i>  |
| -               | <b>Olives (Table olives)</b> , see Group 005: Assorted tropical and sub-tropical fruits - edible peel  |
| SO 3160         | <b>Palm fruit (African oil palm)</b><br><i>Elaeis guineensis</i> Jacq.   |
| -               | <b>Peach palm</b> , see Group 005: Assorted topical and sub-tropical fruits - edible peel,<br><i>Bactris gasipaes</i> Kunth var. <i>gasipaes</i> . |
| SO 3161         | <b>Tucum fruit</b><br><i>Bactris setosa</i> Mart.  |

## APPENDIX X

**PROPOSED DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND  
ANIMAL FEEDS – PROPOSAL FOR THREE COMMODITY GROUPS:**

Tree Nuts; Herbs and Spices  
**(Recommended for adoption at Step 5)**

**Tree nuts****Class A**

**Type 4                      Nuts and seeds      Group 022      Group Letter Code TN**

Group 022, Tree nuts are the seeds of a variety of trees and shrubs, which are characterized by an inedible shell enclosing an oily seed.

The seed is protected from pesticides applied during the growing season by the shell and other parts of the fruit.

The edible portion of the nut is consumed in natural, dried or processed forms.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of shell. Chestnuts: whole in skin.**

***Group 022 Tree nuts***

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
TN 0085	<b>Tree nuts</b> (includes all commodities in this group)
TN 3100	<b>African nut</b> <i>Ricinodendron heudelotii</i> (Baill.) Heckel
TN 0660	<b>Almonds</b> <i>Prunus dulcis</i> (Mill.) D. A. Webb, syn: <i>Amygdalus communis</i> L., <i>Prunus amygdalus</i> Batsch.
TN 0661	<b>Beech nuts</b> <i>Fagus sylvatica</i> L.; <i>F. grandifolia</i> Ehrh.
[TN XXXX	<b>Bettel nut</b> <i>Aneca catechu</i> L.]
TN 0662	<b>Brazil nut</b> <i>Bertholletia excelsa</i> Humb. & Bonpl.
TN 3101	<b>Brazilian pine</b> <i>Araucaria angustifolia</i> (Bertol.) Kuntze
TN 3102	<b>Bunya</b> <i>Araucaria bidwillii</i> Hook
-	<b>Bur oak</b> , see Oak nut, TN 3107



- Quercus macrocarpa* Michx.
- **Bush nut**, see Macadamia nut, TN 0669
- TN 0663 **Butter nut**  
*Juglans cinerea* L.
- **Cajou**, see Cashew nut, TN 0295  
*Anacardium giganteum* Hancock ex Engl.
- TN 3103 **Candle nut**  
*Aleurites moluccanus* (L.) Willd.
- TN 0295 **Cashew nut**  
*Anacardium occidentale* L.; *Anacardium giganteum* Hancock ex Engl.
- **Castanha-do-maranhão**, see Pachira nut, TN 0670  
*Pachira glabra* Pasq.  
Syn : *Bombacopsis glabra* (Pasq.) A. Robyns
- TN 0664 **Chestnuts**  
*Castanea* spp.
- **Chinquapin**, see Chestnuts, TN 0664  
*Castanea pumila* (L.) Mill.
- TN 0665 **Coconut**  
*Cocos nucifera* L.
- TN 3104 **Dika nut**  
*Irvingia gabonensis* (Aubry-Lecomte ex O'Rorke) Baill.
- **Filberts**, see Hazelnuts, TN 0666  
*Corylus maxima* Mill.
- TN 3105 **Ginkgo**  
*Ginkgo biloba* L.
- **Guiana chestnut**, see Pachira nut, TN 0670  
*Pachira aquatica* Aubl.
- **Heartnut**, see Walnuts, TN 0678  
*Juglans ailantifolia* var. *cordiformis* (Makino) Rehder
- TN 0666 **Hazelnuts**  
*Corylus avellana* L.; *C. maxima* Mill.;  
*C. americana* Marschall; *C. californica* (A. DC.) Rose
- TN 0667 **Hickory nuts**  
*Carya ovata* (Mill.) K. Koch.; *C. glabra* (Mill.) Sweet;  
other sweet *Carya* species
- TN 0668 **Japanese horse-chestnut**  
*Aesculus turbinata* Blume;
- **Java almonds**, see Pili nuts, TN 0673  
*Canarium vulgare* Leenh.; *C indicum* L.

- TN 0669           **Macadamia nuts**  
*Macadamia ternifolia* F. Muell.; *M. tetraphylla* L.A.S. Johnson;  
*M.intregifolia* Maiden & Betche
- TN 3106           **Mongongo**  
*Schinziophyton rautanenii* Schinz) Radcl.-Sm
- **Monkey-pot**, see Sapucaia nut, TN 0676  
*Lecythis pisonis* Cambess.
- TN 3107           Oak nut  
*Quercus* spp.
- TN 3108           **Okari nut**  
*Terminalia kaernbachii* Warb.
- TN 0670           **Pachira nut**  
*Pachira insignis* Savigny; *Pachira glabra* Pasq.; *Pachira aquatica* Aubl.
- TN 0671           **Paradise nut**, see Sapucaia nut  
*Lecythis zabucajo* Aubl.
- TN 0672           **Pecan**  
*Carya illinoensis* (Wangenh.) K. Koch
- TN 3109           **Pequi seed**  
*Caryocar brasiliense* Cambess.
- **Pignolia or Pignoli**, see Pine nuts, TN 0673
- TN 0674           **Pili nuts**  
*Canarium ovatum* Engl.; *C. luzonicum* A Gray; *C. vulgare* Leenh.;  
*C indicum* L.
- TN 0673           **Pine nuts**  
Mainly *Pinus pinea* L.; also  
*P. cembra* L.; *P. edulis* Engelm.; *P.sibirica* Du Tour; *P. Koraiensis* Siebold  
& Zucc.; *P. Gerardiana* Wall. Ex D. Don; *P. Monophylla* Torr & Frém.  
and other *Pinus* species
- **Pinocchi**, see Pine nuts, TN 0673
- **Piñon nut**, see Pine nuts, TN 0673
- TN 0675           **Pistachio nut**  
*Pistachio vera* L.
- **Queensland nut**, see Macadamia nut, TN 0669
- TN 0676           **Sapucaia nut**  
*Lecythis zabucajo* Aubl.; *L. minor* Jacq.; *L. ollaria* Loefl.; *L. pisonis*  
Cambess
- TN 0677           **Tropical almond**  
*Terminalia catappa* L.

- TN 0678            **Walnuts**  
*Juglans regia* L.; *J. nigra* L. *J. hindsii* Jeps. Ex R.E. Sm.; *J. microcarpa*  
 Berland var. *microcarpa*; *Juglans ailantifolia* var. *cordiformis*  
 (Makino) Rehder
- **Walnut, Black**, see Walnuts, TN 0789  
*Juglans nigra* L. ; *J. hindsii* Jeps. Ex R.E. Sm.; *J. microcarpa* Berland  
 var. *microcarpa*
- **Walnut, English; Walnut, Persian**, see Walnuts, TN 0678  
*Juglans regia* L.

## **Herbs**

### **Class A**

**Type 5                    Herbs and spices   Group 027            Group Letter Code HH**

Herbs consist of leaves, flowers, stems and roots from a variety of (herbaceous) plants, used in relatively small amounts as condiments to flavour foods or beverages. They are used either in fresh or naturally dried form. Herbs are fully exposed to pesticides applied during the growing season. Post-harvest treatments are often carried out on dried herbs. Herbs are consumed as components of other foods in succulent and dried forms or as extracts of the succulent products.

The group Herbs is divided in two subgroups:

027A Herbs (herbaceous plants)

027B Leaves of woody plants (leaves of shrubs and trees)

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as marketed, mainly in the fresh form.**

*Group 027    Herbs*

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
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HH 0092	<b>Herbs</b> (includes all commodities in this group)
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*Group 027A    Herbs (herbaceous plants)*

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
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HH 2095	<b>Herbs (herbaceous plants)</b> (includes all commodities in this subgroup)
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HH 0720	<b>Angelica</b> <i>Angelica archangelica</i> L.; <i>A. sylvestris</i> L.
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HH 3190	<b>Anise</b> <i>Pimpinella anisum</i> L.
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HH 0721	<b>Balm leaves</b> <i>Melissa officinalis</i> L.
HH 0722	<b>Basil</b> <i>Ocimum basilicum</i> L. <i>Ocimum x citrodorum</i> Vis.; <i>O. minimum</i> L.; <i>O. americanum</i> L.; <i>O. gratissimum</i> L.; <i>O. tenuiflorum</i> L.
HH 0724	<b>Borage</b> <i>Borago officinalis</i> L.
HH 3191	<b>Borage, Indian</b> <i>Plectranthus amboinicus</i> (Lour.) Spreng.
HH 0725	<b>Burnet</b> <i>Sanguisorba officinalis</i> L.; <i>Sanguisorba minor</i> Scop.
HH 3192	<b>Calamint</b> <i>Calamintha grandiflora</i> (L.) Moench ; <i>Calamintha nepeta</i> (L.) Savi
HH 0737	<b>Calendula Flowers [and leaves]</b> <i>Calendula officinalis</i> L.
HH 3193	<b>Caraway leaves</b> <i>Carum carvi</i> L.
HH 0726	<b>Catmint</b> <i>Nepeta cataria</i> L.
-	<b>Catnip</b> , see Catmint, HH 0726
HH 0624	<b>Celery leaves</b> <i>Apium graveolens</i> L.; var. <i>seccalinum</i> (Alef) Mansf.
-	<b>Chervil [, leaves and flowers]</b> , VL 0465, see Group 013: Leafy vegetables
HH 0727	<b>Chives</b> , VA 2605, see Group 009: Bulb vegetables
-	<b>Cilantro</b> , see Coriander leaves HH 3194
-	<b>Clary</b> , see Sage (and related <i>Salvia</i> species), HH 0743 <i>Salvia sclarea</i> L.
HH 3194	Coriander leaves <i>Coriandrum sativum</i> L.
HH 3195	<b>Coriander, Bolivian</b> <i>Porophyllum ruderale</i> (Jacq.) Cass.
HH 3196	<b>Coriander, Vietnamese</b> <i>Persicaria odorata</i> (Lour.) Sojak.
HH 0748	<b>Costmary</b> <i>Tanacetum balsamita</i> L.;
[HH XXXX	Cover fern <i>Marsilea crenata</i> ]

- HH 3197           **Culantro**  
                    *Eryngium foetidum* L.
- HH 3198           **Curry plant**  
                    *Helichrysum italicum* (Roth.)G. Don
- **Daylily**, see Group 009: Bulb vegetables, VA 2600
- **[Daylily flowers]**
- HH 0730           **Dill**  
                    *Anethum graveolens* L.
- HH 3199           **Edible flowers**  
                    Various edible flowers
- HH 3200           **Epazote**  
                    *Dysphania ambrosioides* (L.) Mosyakin & Clemants
- **Estragon**, see Tarragon, HH 0749
- **Fennel, Bulb**, see Group 017: Stalk and Stem vegetables, VA 0380
- HH 0731           **Fennel leaves**  
                    *Foeniculum vulgare* Mill.;
- HH 3201           **Fennel, Spanish**  
                    *Nigella hispanica* L. and *Nigella damascena* L.
- HH 3202           **Fenugreek leaves**  
                    *Trigonella foenum-graecum* L.
- HH 3203           **Geranium (lemon, rose)**  
                    *Pelargonium crispum* (P.J. Bergius) L'Her and *Pelargonium graveolens*  
L'Her  
                    [ *Pelargonium tomentosum*;  
                    chocolate mint *Pelargonium quercifolium*  
                    consider whether other species should be included.]
- HH 0732           **Horehound**  
                    *Marrubium vulgare* L.
- HH 0733           **Hyssop**  
                    *Hyssopus officinalis* L.
- HH 3204           **Hyssop, anise**  
                    *Agastache foeniculum* (Pursh) Kuntze ; *Agastache rugosa* (Fisch. & C.A. Mey)  
Kuntze
- HH 0734           **Lavender**  
                    *Lavendula angustifolia* Mill.;
- HH 3205           **Lemongrass**  
                    *Cymbopogon citratus* (DC.) Stapf  
                    [*C. flexuosus*]

- HH 0735        **Lovage**  
*Levisticum officinale* Koch.
- HH 3206        **Marigold**  
*Tagetes erecta* L.; *T. patula* L.; *T. lucida* Cav.; *T. tenuifolia* Cav.
- HH 0736        **Marjoram**  
*Origanum marjorana* L.; *O. vulgare* L. *O. onites* L.
- HH 3207        **Meadowsweet**  
*Filipendula ulmaria* (L.) Maxim.
- HH 0738        **Mints**  
Several *Mentha* species and hybrids; (see also individual Mints)  
including *Mentha spicata* L.; *M. x piperata* L.; *Mentha x gracilis* Sole; *M. aquatica* L.;  
*M. longifolia* (L.) Huds.; *M. arvensis* L.; *M. suaveolens* Ehrh.  
[ *cordifolia* ]
- HH 3208        **Mioga** (shoots and flower buds)  
*Zingiber mioga* (Thunb.) Roscoe
- HH 3209        **Monarda**  
*Monarda didyma* L.; *M. fistulosa* L.; *M punctata* L.  
[ *M. citriodora* ; *M. pectinata* ]
- **Mugwort**, see see Southernwood, HH 0754  
*Artemisia vulgaris* L.
- **Myrrh**, see Sweet Cicely, HH 0747
- HH 0739        **Nasturtium, leaves**  
*Tropaeolum majus* L.; *T. minus* L.
- HH 3210        **Nettle**  
*Urtica dioica* L.
- **Oregano**, see Marjoram, HH 0736  
*Origanum vulgare* L.; *O. onitus* L.
- HH 3211        **Oregano, Mexican**  
*Lippia graveolens* Kunth; *L. micromera* Schauer
- HH 3212        **Pandan leaves**  
[ *Pandanus amaryllifolius* Roxb. Consider whether other species should be included]
- HH 0740        **Parsley**  
*Petroselinum crispum* (Mill.) Nyman ex A. W. Hill;  
syn: *P. sativum* Hoffm.; *P. hortense* auct.  
*P. crispum* var. *neapolitanum* Danert
- HH 3213        **Pennywort**  
*Centella asiatica* (L.) Urb.
- **Peppermint**, see Mints, HH 0738  
*Mentha x piperita* L.
- HH 3214        **Perilla**

- Perilla frutescens* (L.) Britton var. *crispa*
- [HH XXXX] Phank ka yaeng  
*Limnophila aromatica* Merro]
- [HH XXXX] Phak paen  
*Trichodesma indicum*]
- HH 3215 **Rice paddy herb**  
*Limnophila chinensis* (Osbeck) Merr.
- HH 0741 **Rosemary**  
*Rosmarinus officinalis* L.
- HH 0743 **Sage and related Salvia species**  
*Salvia officinalis* L.; *S. sclarea* L.; *S. triloba* L.
- HH 0745 **Savory, Summer; Winter**  
*Satureja hortensis* L.; *S. montana* L.
- HH 0746 **Sorrel, Common**, and related *Rumex* species  
among others *Rumex acetosa* L.; *R. scutatus* L.; *R. patientia* L.
- HH 0754 **Southernwood**  
*Artemisia abrotanum* L.; *A. pontica* L.
- **Spearmint**, see Mints, HH 0738  
*Mentha spicata* L.;
- HH 3216 **Stevia**  
*Stevia rebaudiana* (Bertoni) Bertoni
- **Stink weed, [or Stinking]** see Culantro, HH 3197  
*Eryngium foetidum* L.
- **Swamp leaf**, see Rice paddy herb, HH 3215
- HH 0747 **Sweet Cicely**  
*Myrrhis odorata* (L.) Scop.
- HH 0749 **Tarragon**  
*Artemisia dracuncululus* L.  
[*A. drancunculoides*; *Tagetes lucida*]
- HH 0750 **Thyme**  
*Thymus vulgaris* L.; *T. serpyllum* L.;  
*T. citriodorus* (Pers.) Schreb. and *Thymus* hybrids.
- **Vietnamese mint**, see Coriander, Vietnamese, HH 3196  
*Polygonum odoratum* Lour.
- HH 3217 **Violet**  
*Viola odorata* L.: *V. tricolor* L.
- HH 3218 **Wasabi leaves**  
*Wasabia japonica* (Miq.) Matsum.

- **Watercress**, see Group 013: Leafy vegetables, VL 0473
- HH 3219 **Waterpepper, Japanese**  
*Persicaria hydropiper* (L.) Delabre
- [HH XXXX Wild betle leaf bush  
*Piper sarmentosum*]
- HH 0751 **Winter cress, Common; American**  
*Barbarea vulgaris* W.T. Aiton.; *B. verna* (Mill.) Asch.
- HH 0752 **Wintergreen leaves**  
*Gaultheria procumbens* L.  
(not including herbs of the Wintergreen family (*Pyrolaceae*))
- HH 3220 **Yarrow**  
*Achillea millefolium* L.
- HH 3221 **Yomogi**  
*Artemisia indica* Willd. var. *maximowizii* (Nakai) H. Hara

*Group 027B Leaves of woody plants*

- | <u>Code No.</u> | <u>Commodity</u>  |
|-----------------|---|
| HH 2096         | <b>Leaves of woody plants</b><br>(includes all commodities in this subgroup)  |
| HH 3230         | <b>Aniseed myrtle</b><br><i>Syzygium anisatum</i> (Vickery) Craven & Biffen   |
| -               | <b>Bay leaves</b> , see Laurel leaves HH 0723   |
| HH 3231         | <b>Boldo</b><br><i>Peumus boldus</i> Molina   |
| HH 0729         | <b>Curry leaves</b><br><i>Bergera koenigii</i> L.<br>[ <i>Murraya koenigii</i> L Sprengel]  |
| HH 3232         | <b>Eucalyptus</b><br>[ <i>Eucalyptus</i> spp. Consider whether commodities that are not strictly used for food should be included in the Classification.] |
| HH 3233         | <b>Japanese pepper leaves</b><br><i>Zanthoxylum piperitum</i> (L.) DC.  |
| HH 3234         | <b>Kaffir lime leaves</b><br><i>Citrus hystrix</i> DC.  |
| HH 0723         | <b>Laurel leaves</b><br><i>Laurus nobilis</i> L.  |
| HH 3235         | <b>Lemon myrtle</b>   |



	<i>Backhousia citriodora</i> F. Muell.
[-	Malabar leaf, see Tejpat leaves, HH 0744]
-	<b>Malabathrum</b> , see Tejpat leaves, HH 0744
HH 3236	<b>Native mint</b> <i>Prostanthera incise</i> R. Br , <i>P. rotundifolia</i> R. Br.
HH 3237	<b>Pepper, leaves</b> <i>Piper spp.</i>
HH 3238	<b>Pepperbush, leaves</b> <i>Tasmania lanceolata</i> (Poir.) A.C. Sm. ; <i>T. stipitata</i> (Vick.)
HH 0742	<b>Rue</b> <i>Ruta graveolens</i> L.
HH 0744	<b>Sassafras leaves</b> <i>Sassafras albidum</i> (Nutt.) Nees
HH 3239	<b>Tejpat leaves</b> <i>Cinnamomum tamala</i> (Buch.-Ham) Nees & Eberm.

SpicesClass A

**Type 5                      Herbs and spices   Group 028                      Group Letter Code HS**

Group 028. Spices consist of the aromatic seeds, buds, roots, rhizomes, bark, pods, flowers or parts thereof, berries or other fruits from a variety of plants, which are used in relatively small quantities to flavour foods.

Spices are exposed in varying degrees to pesticides applied during the growing season. Also post harvest treatment may be applied to spices in the dried form.

They are consumed primarily in the dried form as condiments.

Portion of the commodity to which MRL applies (and which is analysed): Unless specified, whole commodity as marketed, mainly in the dried form.

**Group 028 Spices**

<u>Code No.</u>	<u>Commodity</u>
HS 0093	<b>Spices</b> (includes all commodities in this group)

**Group 028A Seeds**

<u>Code No.</u>	<u>Commodity</u>
HS 0190	<b>Spices, seeds</b> (includes all commodities in this subgroup)
HS 3280	<b>Achiote seeds</b> <i>Bixa orellana</i> L.

HS 3281	<b>Ajwain</b> <i>Trachyspermum ammi</i> (L.) Sprague ex Turrill [ <i>T. copticum</i> ]
HS 0720	<b>Angelica seed</b> <i>Angelica archangelica</i> L.; <i>A. sylvestris</i> L.
-	<b>Aniseed</b> , see Anise seed, HS 0771
HS 0771	<b>Anise seed</b> <i>Pimpinella anisum</i> L.
HS 0722	<b>Basil seed</b> <i>Ocimum</i> spp.
HS 3282	<b>Black caraway</b> <i>Nigella sativa</i> L.
HS 0774	<b>Caraway seed</b> <i>Carum carvi</i> L.
HS 0624	<b>Celery seed</b> <i>Apium graveolens</i> L.
HS 3283	<b>Chia</b> <i>Salvia hispanica</i> L.
HS 0779	<b>Coriander, seed</b> <i>Coriandrum sativum</i> L.
HS 3284	<b>Culantro seed</b> <i>Eryngium foetidum</i> L.
HS 0780	<b>Cumin seed</b> <i>Cuminum cyminum</i> L.
HS 0730	<b>Dill seed</b> <i>Anethum graveolens</i> L.
HS 0731	<b>Fennel, seed</b> <i>Foeniculum vulgare</i> Mill.; syn: <i>F. officinale</i> All; <i>F. capilaceum</i> Gilib.
HS 0782	<b>Fenugreek, seed</b> <i>Trigonella foenum-graecum</i> L.; <i>T. caerulea</i> (L.) Ser.
HS 3285	<b>Honewort seed</b> <i>Cryptotaenia japonica</i> Hassk.
HS 0735	<b>Lovage, seed</b> <i>Levisticum officinale</i> Koch.
HS 3286	<b>Mahaleb</b> <i>Prunus mahaleb</i> L.
HS 0789	<b>Nutmeg</b>

Seed of *Myristica fragrans* Houtt.

- HS 0740        **Parsley seed**  
                   *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill;
- **Poppy seed**, SO 0495, see Group 023: Oilseed
- **Sesame seed**, SO 01700, see Group 023: Oilseed
- HS 3287        **Wattle seed**  
                   *Acacia victoriae* Bent. and other spp.

### Group 028B Fruit or berry

<u>Code No.</u>	<u>Commodity</u>
HS 0191	<b>Spices, fruit or berries</b> (includes all commodities in this subgroup)
-	<b>Allspice fruit</b> , see Pimento, HS 0792
HS 0775	<b>Cardamom</b> <i>Elettaria cardamomum</i> (L.) Maton <i>Amomum tsao-ko</i> Crevost & Lemarié ; <i>A. subulatum</i> Roxb. ; <i>A. compactum</i> Sol.ex Maton
-	<b>Cardamom, black</b> , see Cardamom, HS 0775
HS 3290	<b>Cumin, black</b> <i>Bunium persicum</i> (Boiss.) B. Fedtsch.
HS 3291	<b>Gardenia fruit</b> <i>Gardenia jasminoides</i> J.Ellis
HS 0785	<b>Grains of paradise</b> <i>Aframomum melegueta</i> (Rosc.) K Schum. ; syn: <i>Amomum melegueta</i> Rosc.
HS 3292	<b>Grains of Selim</b> <i>Xylopiya aethiopica</i> (Dunal) A. Rich.
HS 0786	<b>Juniper, berry</b> <i>Juniperis communis</i> L.
HS 3293	<b>Miracle fruit</b> <i>Synsepalum dulciferum</i> (Scumach. & Thonn.) Daniell
HS 0739	<b>Nasturtium pods</b> <i>Tropaeolum majus</i> L.; <i>T. Minus</i> L.
HS 0790	<b>Pepper, Black; White; Pink; Green</b> (see Note) <i>Piper nigrum</i> L.
HS 3294	<b>Pepper, Cubeb</b> <i>Piper cuceba</i> L. f.
HS 0791	<b>Pepper, Long</b>

*Piper longum* L. ; *P. retrofractum* Vahl.;

HS 3295	<b>Pepper, Sichuan</b> <i>Zanthoxylum bungeanum</i> Maxim.; <i>Z. schinifolium</i> Siebold & Zucc.; <i>Z. simulans</i> Hance; <i>Z. piperitum</i> (L.) DC
HS 3296	<b>Peperbush berry</b> <i>Tasmannia lanceolata</i> (Poir.) A.C. Sm. ; <i>T. stipitata</i> (Vick.) A.C. Smith
HS 3297	<b>Peppertree</b> <i>Schinus terebinthifolius</i> Raddi; <i>S. molle</i> L.
HS 0792	<b>Pimento, fruit</b> <i>Pimenta dioica</i> (L.) Merrill
HS 3298	<b>Star anise</b> <i>Illicium verum</i> Hook.f.
HS 0369	<b>Tamarind</b> , see also Group 006: Assorted tropical and sub-tropical fruits - inedible peel <i>Tamarindus indica</i> L., sour varieties
HS 0795	<b>Vanilla, beans</b> <i>Vanilla planifolia</i> Andrews

**Group 028C Bark**

<u>Code No.</u>	<u>Commodity</u>
HS 0192	<b>Spices, bark</b> (includes all commodities in this subgroup)
-	[ <b>Cassia bark</b> , see Cinnamon bark (including Cinnamon, Chinese bark), HS 0777 Consider whether this commodity should have a separate entry for <i>Cinnamomum aromaticum</i> ; or include this species under Cinnamon bark HS 0777]
HS 0777	<b>Cinnamon bark</b> (including Cinnamon, Chinese bark) <i>Cinnamomum verum</i> J. Presl; <i>C. aromaticum</i> Nees; <i>C. burmannii</i> (Nees & T. Nees) Blume; <i>C. loureiroi</i> Nees; <i>C. tamala</i> (Buch.-Ham.) Nees & Eberm. [ <i>Cinnamomum zeylanicum</i> ]
-	<b>Tejpat</b> , see Cinnamon bark (including Cinnamon, Chinese bark), HS 0777 <i>Cinnamomum tamala</i> (Buch.-Ham.) Nees & Eberm.
HS 3310	<b>Mastic</b> <i>Pistacia lentiscus</i> L.
-	<b>Quinine</b> , see Red cinchona, HS 3311
HS 3311	<b>Red cinchona</b> <i>Cinchona pubescens</i> Vahlk; <i>C. officinalis</i> L.

**Group 028D Root or rhizome**

<u>Code No.</u>	<u>Commodity</u>
HS 0193	<b>Spices, root or rhizome</b> (includes all commodities in this subgroup)
-	<b>Angelica, root, stem and leaves</b> , see Group 027: Herbs, Angelica HH 0720
HS 3320	[ <b>Asafetida</b> Consider whether the portion of the commodity to which an MRL would apply is correct. <i>Ferula foetida</i> (Bunge) Regel; <i>F. assa-foetida</i> L. ]
-	<b>Coriander, root</b> , see Group 027: Herbs, Cilantro, HH 3194 <i>Coriandrum sativum</i> L.
HS 0783	<b>Galangal, rhizomes</b> <i>Languas galanga</i> (L.) Stunz ; syn: <i>Alpinia galanga</i> Sw.; <i>Languas officinarum</i> (Hance) Farwelll; syn: <i>Alpinia officinarum</i> Hance <i>Kaempferia galanga</i> L.
HS 0784	<b>Ginger, rhizomese</b> <i>Zingiber officinale</i> Rosc.
-	<b>Horseradish</b> , see VR 0583, Group 016: Root and Tuber vegetables
[HS XXXX	Krachai <i>Buesenbergia pandurata</i> Holff.]
-	<b>Licorice</b> , see Liquorice, roots, HS 0787
HS 0787	<b>Liquorice, roots</b> <i>Glycyrrhiza glabra</i> L.
HS 0794	<b>Turmeric, root</b> <i>Curcuma longa</i> L. [ <i>C. mangga</i> ]
HS 3321	<b>Zedoary</b> <i>Curcuma zedoaria</i> (Cristm.) Roscoe

**Group 028E Buds**

<u>Code No.</u>	<u>Commodity</u>
HS 0194	<b>Spices, buds</b> (includes all commodities in this subgroup)
HS 0773	<b>Caper buds [and berries]</b> <i>Capparis spinosa</i> L.
HS 0776	<b>Cassia buds</b> <i>Cinnamomum aromaticum</i> (L.) Nees
HS 0778	<b>Cloves, buds</b> <i>Syzygium aromaticum</i> (L.) Merr. & Perr.; syn: <i>Eugenia caryophyllus</i> (Sprengel) Bullock & Harrison; <i>E. aromatica</i> Kuntze; <i>E. caryophyllata</i> Thunb.; <i>Caryophyllus aromaticus</i> L.

**Group 028F Flower or stigma**

<u>Code No.</u>	<u>Commodity</u>
HS 0195	<b>Spices, flower or stigma</b> (includes all commodities in this subgroup)
HS 3340	<b>Saffron</b> <i>Crocus sativus</i> L.

**Group 028G Aril**

<u>Code No.</u>	<u>Commodity</u>
HS 0196	<b>Spices, aril</b> (includes all commodities in this subgroup)
HS 0788	<b>Mace</b> Dried aril of <i>Myristica fragrans</i> Houtt.

**[Group 028H Citrus Peel]**

**Note:** Although white pepper is in principle a processed food belonging to Type 13: Derived products of plant origin, it is listed for convenience in Group 028 Spices. White pepper is prepared from Black pepper, *Piper nigrum* L.: The seeds are retted in water and dried after removal of the mesocarp. The resulting white pepper may or may not be ground into powder. The scientific name of green pepper and pink pepper is *Piper nigrum* L. Pink pepper is mature pepper. Green pepper is an immature stage of pink pepper.

## APPENDIX XI

**PROPOSED DRAFT PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE  
COMMODITIES FOR THE EXTRAPOLATION OF MRLS TO COMMODITY GROUPS  
(Recommended for Adoption at Step 5)**

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Table 1. Examples of the Selection of Representative Commodities

**INTRODUCTION**

Residue extrapolation is the process by which the residue levels on representative commodities are utilized to estimate residue levels on related commodities in the same commodity group or subgroup for which trials have not been conducted. Representative commodities are chosen based on their commercial importance and the similarity of their morphology and residue characteristics to other related commodities in the group or subgroup. Ideally representative commodities are the most economically important commodities in production or consumption in a group or subgroup and have a greater dietary burden and have residue characteristics similar to other members of the group or subgroup. Residue extrapolation is a common consideration utilised by regulators internationally for ensuring that data requirements are only at a level that is scientifically justified in conducting risk assessment and to ensure the regulatory process does not become unnecessarily burdensome especially for minor crops.

The objective of this document is to (1) propose criteria for the selection of representative commodities; (2) propose example representative commodities and (3) provide a detailed justification for the selection of the representative commodities (Addendum I). Additional background information regarding the status of representative commodities is provided in Addendum II to this document.

**GENERAL PRINCIPLES**

Representative commodities within each Codex Classification commodity group and subgroup will be selected and proposed, based on consideration of all available information. The following principles will be used for the selection of representative commodities:

- A representative commodity is most likely to contain the highest residues.
- A representative commodity is likely to be major in terms of production and/or consumption.
- A representative commodity is most likely similar in morphology, growth habit, pest problems and edible portion to the related commodities within a group or subgroup.

To facilitate the global use of the commodity groups for MRLs, alternative representative commodities may be selected giving flexibility for use of residue research conducted in different countries or regions that may vary due to regional differences in dietary consumption and/or areas of production for certain commodities.

Table 1 in this document is provided to (1) separate the selection of representative commodities from the Codex Classification itself; (2) propose representative commodities in parallel with the respective Codex commodity grouping classification revisions; (3) provide flexibility on the selection of representative crops and (4) provide guidance not only to CCPR and CCPR members, but also to JMPR, product manufacturers and other data generators.

Addendum I to this document provides detailed background information (bulb vegetables and fruiting vegetables, other than Cucurbits) regarding production, consumption, MRLs and characteristics and justification for selection of the representative commodities according to the indicated principles. In all cases, it is assumed that all of the commodities covered by a commodity group MRL utilize a similar use pattern or GAP.

Addendum II to this document provides more detailed background information regarding residue extrapolations and history and use by JMPR.

## **PROCEDURES**

As proposals for the revision of the Codex Classification are made and revised commodity groupings are developed and provided to the CCPR for their review, proposals on representative commodities will also be provided in parallel with the respective commodity grouping revisions and will advance through the CCPR step process for adoption by the CAC.

As comments are addressed on the revisions of the classification and the proposed representative commodities and these are approved by the CCPR and accepted by the CAC, two separate documents will be created and maintained: (1) the revised Codex Classification (without mention of representative commodities) and (2) principles and guidance on the selection of representative commodities.

The JMPR may be advised to use the representative commodities adopted by the CAC. However, JMPR may use other representative commodities (including those which may be specifically requested by member nations) on a case-by-case basis. The JMPR will be requested to provide to the CCPR justification for the use of any alternative representative commodities, based on all available data.

### ***GOOD AGRICULTURAL PRACTICES (GAPS)***

The application of the three principles in the selection of representative commodities is based on the assumption that all of the commodities, covered by the commodity group MRL, utilize a similar use pattern or GAP.

### ***ALTERNATIVE REPRESENTATIVE COMMODITIES***

To facilitate the global use of the commodity groups for MRLs, alternative representative commodities may be selected giving flexibility for use of residue research conducted in different countries or regions that may vary due to regional differences in dietary consumption and/or areas of production for certain commodities. Table 1 in this document proposes representative commodities for commodity groups. Depending on country or regional differences, alternative representative commodities may be proposed by a country. For example, leeks may be proposed as an alternative representative commodity for green onions in the green onion subgroup of Bulb Vegetables.

### ***PRECEDENCE IN SELECTION OF REPRESENTATIVE COMMODITIES***

In situations where a representative commodity does not meet all three of the above principles, a representative commodity should at least meet the first two principles (likely to contain the highest residues and also major in terms of production and consumption).



***DEFINITION OF SIMILAR RESIDUES***

When representative commodities are utilized to extrapolate to other members of a commodity group, it is based on the assumption that the representative commodities will have similar residues. “Similar residues” are difficult to define numerically, because this would require knowing actual residues for all commodities in a group. Rather, the expectation of similar residues is based upon consideration of all of the information provided in Addendum I of this document. This information will be prepared for each commodity group and will form the basis of the proposals for representative commodities.

***USE AND COMBINATION OF DATA SETS***

When representative commodities are utilized to extrapolate MRLs to other members of the commodity group, MRLs may be calculated as either the highest MRL calculated for any of the individual representative commodities or the residue data may be combined and the MRL calculated from the larger combined data set.

***[TABLE 1. EXAMPLES OF THE SELECTION OF REPRESENTATIVE COMMODITIES]***

A representative commodity should meet at least the first two principles described above, i.e. likely to contain the highest residues and also major in terms of production and consumption. However, it may not always fit well with the growth habits, or pest problems, or morphology within one group or subgroup. In such situations, extrapolations beyond the members of a commodity group may be appropriate. These can be considered on a case-by-case basis when commodities (with similar GAPs) have similar size, shape and surface area. Examples of these possible wider extrapolations include (1) translation of certain stone or pome fruit MRLs to a tropical fruit; (2) where residues are all <LOQ for pre-emergent herbicide uses and (3) seed treatments for non-systemic pesticides.

Alternative representative commodities may be selected based on documented regional/country differences in dietary consumption and/or areas of production.

<b>Codex Group / Subgroup</b>	<b>Examples of Representative Commodities <sup>1</sup></b>	<b>Extrapolation to the following commodities</b>
Group 009 Bulb Vegetables	(1) Bulb onion and (2) Spring Onion	<u>Bulb vegetables (VA 0035)</u> : Chives; Chives, Chinese; Daylily; Elegans hosta; Fritillaria (bulb); Fritillaria (green); Garlic; Garlic chives; Garlic, Great-headed; Garlic, Serpent; Kurrat; Lady's leek; Leek; Lily; Onion, Beltsville bunching; Onion, Bulb; Onion, Chinese; Onion, fresh; Onion macrostem; Onion, Pearl; Onion, potato; Onion, Welsh; Shallot; Silverskin onion; Spring onion; Tree onion; Wild leek
Subgroup 009A, Bulb Onions	Bulb onion	<u>Bulb onions (VA 2031)</u> : Daylily; Fritillaria (bulb); Garlic; Garlic, Great-headed; Garlic, Serpent; Lily; Onion, Bulb; Onion, Chinese; Shallot; Silverskin onion
Subgroup 009B, Green Onions	Spring onion (Leek may be an alternative)	<u>Green Onions (VA 2032)</u> : Chives; Chives, Chinese; Elegans hosta; Fritillaria (green); Garlic chives; Kurrat; Lady's leek; Leek; Onion, Beltsville bunching; Onion, fresh; Onion macrostem; Onion, Pearl; Onion, potato; Onion, Welsh; Spring onion; Tree onion; Wild leek
Group 012 Fruiting vegetables, other than Cucurbits	(1) Tomato and (2) Sweet Pepper and (3) Chili Pepper or small variety of Eggplant	<u>Fruiting vegetables, other than Cucurbits (VO0050)</u> : African eggplant; Bush tomato; Cherry tomato; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Ground cherries, Martynia; Okra; Pea eggplant; Pepino; Peppers, chilli; Peppers, sweet; Roselle; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Thai eggplant
Group 012A, Tomatoes	Tomato	<u>Tomatoes (VO 2045)</u> : Bush tomato; Cherry tomato; Cocona; Currant tomato; Garden huckleberry; Goji berry; Ground cherries; Sunberry; Tomatillo; Tomato
Group 012B, Pepper and pepper-like commodities	(1) Sweet Pepper and (2) one cultivar of chili pepper	<u>Peppers (VO 0051)</u> : Martynia; Okra; Peppers, chili; Peppers, sweet; Roselle
Group 012C, Egg plant and egg plant-like commodities	(1) One cultivar of large variety eggplant and (2) one cultivar of small variety eggplant	<u>Egg plants (VO 2046)</u> : African eggplant; Egg plant; Pea eggplant; Pepino; Scarlet eggplant; Thai eggplant

<sup>1</sup> See Addendum I to this document for detailed background information (bulb vegetables and fruiting vegetables, other than Cucurbits) regarding production, consumption, MRLs and characteristics and justification for selection of the representative commodities according to the indicated principles.]

## APPENDIX XII

**PRIORITY LIST OF CHEMICALS SCHEDULED FOR EVALAUTION AND  
RE-EVALUATION BY JMPR**

The following is the final schedule for 2011 and the tentative schedules for 2012-2017 to be evaluated by the FAO/WHO Joint Meeting on Pesticide Residues.

**2011 JMPR**

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
acetamiprid (Nippon Soda) - Japan	acetamiprid (Nippon Soda) – Japan – citrus, pome fruits, stone fruits, grape, strawberries, small fruits and berries, animal commodities (Pesticide Initiative Project – beans with pods)
chlorfenapyr (BASF) – Brazil – residue to 2012	
emamectin-benzoate (Syngenta) - USA – PRIORITY 1	emamectin-benzoate (Grapes, potatoes, pome & stone fruits, tomatoes, eggplants, cucurbits (cucumber, melon, watermelon), lettuce, spinach, pepper, beans & peas, brassicas)
flutriafol (Cheminova) – USA	flutriafol (Cheminova) - USA - apples, grapes, bananas, soybean, peanut, wheat, coffee
isopyrazam (Syngenta) - Switzerland	isopyrazam – (Wheat, barley, cereals, bananas)
MCPA (Nufarm) – USA	MCPA -Wheat grain, barley grain, peas

penthioopyrad (DuPont) - USA	penthioopyrad (Brassica (Cole) Leafy Vegetables – Broccoli, Broccoli (Chinese, gailon), Broccoli Raab (rapini), Brussels Sprouts, Cabbage, Cabbage (Chinese, bok choy), Cabbage (Chinese, napa), Cabbage (Chinese mustard, gai choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens, Bulb Vegetables – Chive, Chive (Chinese), Daylily, Elegans Hosta, Fritillaria, Garlic, Garlic (great-headed), Garlic (serpent), Kurrat, Lady’s Leek, Leek, Leek (wild), Lily, Onion (Beltsville bunching), Onion (bulb), Onion (Chinese), Onion (fresh), Onion (green), Onion (macrostem), Onion (pearl), Onion (potato), Onion (tree), Onion (Welsh), Shallot, Oilseed – Canola, Sunflower, Cereal grains – Barley, Buckwheat, Corn (field), Corn (sweet), Millet (pearl), Millet (proso), Oats, Popcorn, Rye, Sorghum (milo), Sorghum ssp. (sudangrass and hybrids), Teosinte, Triticale, Wheat, Cotton, Cucurbit vegetables – Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourd (edible; includes hyotan, ucuza, hechima, Chinese okra), Momordica spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe), Pumpkin, Squash (summer), Squash (winter; includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon, Fruiting vegetables – Eggplant, Groundcherry, Pepino, Pepper (bell), Pepper (chili), Pepper (pimento), pepper (sweet), tomatillo, tomato, Grape, Leafy vegetables - Amaranth (Chinese spinach), Arugula (roquette), Cardoon, Celery, Celery (Chinese), Celuce, Chervil, Chrysanthemum (edible-leaved), Chrysanthemum (garland), Corn salad, Cress (garden), Cress (upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel (Florence), Lettuce (head), Lettuce (leaf), Orach, Parsley, Purslane (garden), Purslane (winter), Radicchio (red chicory), Rhubarb, Spinach, Spinach (New Zealand), Spinach (vine), Swiss chard, Legume vegetables (succulent and dried) - Bean (Lupinus; includes - grain lupin, sweet lupin, white lupin, white sweet lupin), Bean (Phaseolus; includes broad bean, field bean, green runner bean, kidney bean, lima bean, navy bean, pinto bean, snap bean, tepary bean, wax bean), Bean (Vigna; includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (Pisum; includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean, Soybean (immature seed), Sword bean, Low-growing Berries – Strawberry, Low bush blueberry, Peanut, Pome fruits – Apple, Crab-apple, Loquat, Mayhaw, Pear, Pear (Japanese), Pear (Oriental), Quince, Root and tuber vegetables – Arracacha, Arrowroot, Artichoke (Chinese), Artichoke (Jerusalem), Beet (garden), Beet (sugar), Burdock (edible), Canna (edible), Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Ginger, Ginseng, Horseradish, Leren, Parsley (turnip-rooted), Parsnip, Potato, Radish, Radish (oriental), Rutabaga, Salsify, Salsify (black), Salsify (Spanish), Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam bean, Yam (true), Stone fruits – Apricot, Cherry (sweet), cherry (tart), Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Plumcot, Prune (fresh), Tree nuts - Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut, Pecan, Walnut (black), Walnut (English), Pistachio).
propylene oxide (Aberco) - USA	propylene oxide (Aberco) – USA - tree nuts, cacao, spices and dried fruit
saflufenacil (BASF) - USA	saflufenacil (BASF) - USA - soy bean, peas and beans, corn, sorghum, cereals, citrus, pome fruit, stone fruit, almonds, pecan, sunflower, cotton, grape, banana, mango, coffee, sugar cane, canola, animal products

sulfoxaflor (Dow AgroSciences)	sulfoxaflor (Dow AgroSciences) - cereal grains (wheat, barley, rice), soya bean, oilseed rape, cottonseed, pome fruits, stone fruits, citrus fruits, tree nuts, grapes, dried grapes, strawberries, leafy vegetables, fruiting vegetables, cucurbits, brassica vegetables, and bulb vegetables and animal products
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
dichlorvos (025) (AMVAC Chemical UK)	
dicofol (026) – (Dow AgroSciences) Toxicology information not available	dicofol (026) – not supported by the manufacturer – tea data package (India and Morocco)
etofenprox (184) (Mitsui Chemicals Inc)	etofenprox (184) – (awaiting advice on commodities)
	tebuconazole (189) – (Bayer CropScience) - artichoke, banana, barley, brassica vegetables, broad bean, citrus, carrot, coffee beans, cucumber, elderberries, garlic, grapes, hops, leek, lettuce head, maize, mango, melons, oats, onion, papaya, peach, peanut, peppers sweet, plums, pome fruit, prunes, rape seed, rice, rye, soya bean, summer squash, sweet corn, tomato, watermelon, wheat, tree nuts. (Pesticide Initiative Project – bean with pods, okra, papaya, passionfruit, snowpeas)
<b>EVALUATIONS</b>	<b>EVALUATIONS</b>
	acephate (95) – rice (China)
	azoxystrobin (229) (Ginseng and its products) (R of Korea), (Pesticide Initiative Project – okra, passionfruit, papaya),carambola (Malaysia)
	benalaxyl (155) (FMC) – onion, tomato, potato - EU
	cypermethrin (118) – (FMC-Agriphar) – tree nuts, citrus fruit, asparagus (Thailand) and tea, chilli (India, China)
	difenoconazole (224) (Syngenta) – ginseng and its products - Korea
	diflubenzuron (130) (Chemtura) - artichoke, cottonseed, grapefruit, orange, soybean, soybean hull, tangerine, barley (grain, hay, straw), wheat (forage, hay, straw, grain), brassica leafy greens, stone fruit (except cherry), tree nuts, peanut, pepper, pistachio, pummelo and turnip greens
	flutolanil (205) (Nihon Nohyaku) – leafy brassica, root vegetables, ginseng
glyphosate (158) (Dupont)	glyphosate (158) (Dupont) - maize grain and soya bean (dry)
	hexythiazox (176) (BASF)– hops and strawberries
	profenofos (171) – (Syngenta) chilli pepper, chilli pepper (dry), (Thailand) – note retain 4 year rule
	pyraclostrobin (210) – (BASF) – Germany - Citrus (grapefruit, orange, lemon, lime, mandarin), stone fruits (apricot, cherry, peach, plum), strawberry, cane fruits (blackberries, dewberries, raspberries), small berries (blueberry, cranberry, currants, gooseberry, rose hip, mulberry, azarole, elderberry), bulb vegetables (garlic, onion, shallot, spring onion), cucurbits - inedible peel (melon, pumpkin, watermelon), oilseeds, oat, sorghum, tropical fruits (e.g. mango, papaya, avocado)

	spinosad (203) – (Dow AgroSciences) -USA - cranberry, hops, - revised GAP (blueberries; raspberries, red, black; onion, bulb; tree nuts) (Pesticide Initiative Project – beans with pods, okra, papaya, passionfruit, snowpeas)
	spirotetramate (Bayer CropScience) – USA - edible podded bean, edible podded pea, succulent shelled bean, succulent shelled pea, dry bean seed, dried pea seed, soybean seed, tropical fruits, lychee, dried prunes, okra, pistachio, undelinted cotton seed, and onion bulb. If you also like to include a list all of the commodities in the tropical fruits, it includes avocado, birida, black sapote, canistel, cherimoya, custard apple, feijoa, jaboticaba, guava, Ilima, longan, mamey sapote, mango, papaya, passionfruit, persimmon, pulasan, rambutan, sapodilla, soursop, Spanish lime, star apple, starfruit, sugar apple, wax jambu, white sapote

## 2012 JMPR

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
ametoctradin (BASF) – USA PRIORITY 1	ametoctradin - potato, cucumber, zucchini, melon, tomato, peppers, table and wine grapes, lettuce and lamb's lettuce, brassica vegetables, bulb vegetables and hops
	chlorfenapyr (cotton seed, beans, papaya, peppers, cabbage, tomato, garlic, onion, corn, melon, tea and potato.)  toxicological evaluation in 2011
clopyralid (Dow AgroSciences) - USA – PRIORITY 1	clopyralid - Hops, pome fruits, stone fruits, cranberry, strawberry, spinach, sugar beets, barley, corn, oats, sorghum, wheat, linseed, rape seed, grass forage
cyantraniliprole (Dupont) – USA PRIORITY 1	cyantraniliprole - pome fruit, stone fruit, brassica vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, bulb vegetables, green/long beans, grape, potato, sweet potato, rice, cotton, canola, citrus, tree nuts
dinotefuran (Mitsui Chemicals Agro) – Japan - PRIORITY 1	dinotefuran (apple, cabbage, chinese cabbage, citrus, cotton seeds, cruciferous vegetables, cucurbits, eggplant, grape, green soybeans, lettuce, mango, melon, okra, peach, pear, persimmon, potato, rice, soy bean, spinach, sweet peppers, tea, tomato, meat from mammals (other than marine mammals), edible offals (mammalian), milks,
fluxapyroxad (BASF) – USA PRIORITY 1	fluxapyroxad - Cereals (barley, corn, rice, sorghum and wheat), oilseeds (canola, sunflower, and cottonseed), root and tuber vegetables (potato, carrot, sugar beet), legume vegetables (dry and succulent peas, beans and soybean), Brassica stem and leafy vegetables (broccoli, cauliflower, cabbage), fruiting vegetables (peppers, tomatoes), pome fruit (apple and pear), citrus (orange, grapefruit, lemon), stone fruits (cherry, peach, plum), cucurbits (cucumber, melon, pumpkin, squash), bulb vegetables (onion, garlic), coffee, banana, grapes, mango, papaya and peanuts.

PERIODIC RE-EVALUATIONS	PERIODIC RE-EVALUATIONS
aldicarb (117) – Bayer CropScience)	
bentazone (172) (BASF)	bentazone (172) - beans (green and dried), peas (green and dried), cereals, maize, sorghum, onion, peanuts, potato, linseed, meat, milk, eggs.
	cycloxydim (179) (BASF) - Beans (green and dried), brassicae, carrot, grape, leek, lettuce (head and leafy), peas (fresh and dried), potato, rapeseed, strawberry, sugarbeet
	dichlorvos (025) – (AMVAC Chemical UK) - cattle (fat, meat, meat byproducts), egg, goat (fat, meat, meat byproducts), horse (fat, meat, meat byproducts), milk, mushroom, poultry ( fat, meat, meat byproducts), raw agricultural commodities, nonperishable, bulk stored regardless of fat content, postharvest, raw agricultural commodities nonperishable, packaged or bagged, containing 6 percent fat or less, postharvest, raw agricultural commodities, nonperishable, packaged or bagged, containing more than 6 percent fat, postharvest, sheep (fat, meat, meat byproducts), tomato
diquat (031) (Syngenta)	diquat (031) – Cereals (including barley, wheat, maize, oats, rice, sorghum), Oilseeds (including linseed, oilseed rape, soya bean, sunflower, cotton, poppy), Legume vegetable group (including peas, beans, lentils), Head brassica group (including cabbage), Flowering brassica group, Leafy brassica group, Fruiting vegetable group (including tomato, pepper), Root and tuber group (including carrot, radish, beetroot, sugarbeet, potato), Stem vegetable group (including asparagus, celery, leek), Cucurbits (edible and inedible peel), Bulb vegetables (including onion), Citrus fruit, Lettuce group, spinach, canary, lupine, mustard, apple, banana, chicory witloof, coffee, sweet corn, grape, herbs (including parsley and sage), hop, kohlrabi, lucerne, olive, peach, strawberry, clover, grass, alfalfa, sugarcane,
	dithianon (028) (BASF) – pome fruit, cherry, grapes, hops, mandarin
fenbutatin oxide (109) (BASF)	fenbutatin oxide (109) - Tree nuts, pome fruit, banana, cherry, citrus fruit, cucumber, grapes, raisins, stone fruit, strawberry, tomato, meat, milk, eggs
fenpropathrin (185) (Sumitomo Chemical)	fenpropathrin (185) - cattle meat, cattle milk, cattle edible offal, cotton seed, cotton seed oil, eggplant, eggs, gherkin, grapes, chilli pepper, sweet pepper, pome fruits, poultry meat, poultry edible offal, tea, tomato
fenvalerate (119) – (Sumitomo Chemical) – support unknown	fenvalerate (119) – reviews are available from the USA
glufosinate-ammonium (175) – (Bayer CropScience)	glufosinate-ammonium (175) - Citrus fruits, Tree nuts, Almonds hulls, Pome fruits, Stone fruits, Berries and other small fruits (except currants), Currants (Black, Red, White), Banana, Assorted tropical and sub-tropical fruits - inedible peel, Potato, Carrot, Bulb onion, Corn salad, Common bean (pods and/or immature seeds), Asparagus, Broad bean (dry), Common bean (dry), Peas (dry), Rape seed and crude Rape seed oil, Crude, Soya bean (dry), Sunflower seed and crude Sunflower seed oil, Maize grain, Maize fodder, Sugar beet, Tea, Palm oil, Meat (from mammals other than marine mammals), Poultry meat, Edible offal (mammalian), Edible offal of Poultry, Eggs, Milks.

<b>EVALUATIONS</b>	<b>EVALUATIONS</b>
	buprofezin (173) (Nihon Nohyaku) – coffee (USA) – awaiting confirmation
	captan (7) ( Arysta) - Pesticide Initiative Project - mango
	carbofuran (96) (FMC ) – banana
	chlorpyrifos-methyl( 090) (DOW)- alternative GAP for cereal commodities (wheat, barley, oat, sorghum, wheat germ, wheat bran – unprocessed – excluding maize)
	cyfluthrin (157) - (Bayer CropScience) soybean, cabbage
	cyromazine (169) (Syngenta) - Pesticide Initiative Project – beans with pods
	dithiocarbamates - mancozeb (105) (Dow) - Pesticide Initiative Project – mango, okra, papaya
	imidacloprid (206) (Bayer) - Pesticide Initiative Project - mango
	methoxyfenozide (209) (Dow AgroSciences) – New GAP for on spinach; alfalfa forage; alfalfa fodder; citrus fruits (Pesticide Initiative Project – beans with pods)
	oxamyl (126) (Dupont) – residue definitions, methods
	phorate (112) (AMVAC) – potato - awaiting confirmation)
	spinetoram (233) (Dow AgroSciences) – New GAP for stone fruits; cabbage, head; broccoli; citrus fruits; grapes; dried grapes; onion, bulb; leafy vegetables; broad bean; tree nuts
	thiacloprid (223) (Bayer) - Pesticide Initiative Project – beans with pods, papaya
	trifloxystrobin (213) (Bayer) - Pesticide Initiative Project – beans with pods, mango, papaya, passionfruit

**2013 JMPR**

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
	aldicarb (117) – (Bayer CropScience) - citrus fruits
amitraz (122) – (Arysta Lifesciences)	amitraz (122) – (awaiting advice on commodities)
bromide ion (47) – no Croplife manufacturer responsible - support unknown	bromide ion (47) – support unknown
dichlofluanid (82) – (Bayer CropScience) - not supported by the manufacturer	dichlofluanid (82) – not supported by the manufacturer
dinocap (87) – (Dow AgroSciences) - not supported by the manufacturer	dinocap (87) – not supported by the manufacturer



disulfoton (74) – (Bayer CropScience) - support unknown	disulfoton (74) – reviews are available from the USA
metalaxyl (138) – (Syngenta) - no longer supported by the manufacturer	metalaxyl (138) (Syngenta)– no longer supported by the manufacturer - Field trials (Thailand), reviews are available from USA.
methidathion (51) (Syngenta)– no longer supported by the manufacturer	methidathion (51) (Syngenta)– no longer supported by the manufacturer
tecnazene (115) – (no croplife manufacturer listed as responsible - support unknown)	tecnazene (115) – support unknown
triforine (116) (Sumitomo Corp)	triforine (116) –(Sumitomo Corp) Apple, Blueberries, Brussels sprouts, Cereal grains, Cherries, Common bean, Currants(Black,Rd, White), Fruiting vegetables, Cucurbits, Gooseberry, Peach, Plums(including prunes), Strawberry, Tomato
<b>EVALUATIONS</b>	<b>EVALUATIONS</b>

## 2014 JMPR

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
	azinthos-methyl (002) – (Makhteshim – Agan) – support unknown - (awaiting advice on commodities)
bromopropylate (70) – (Syngenta) support unknown	bromopropylate (70) – support unknown
diazinon (22) – (Makhteshim – Agan)	diazinon (22) – (awaiting advice on commodities)
hydrogen phosphide (46) – no Croplife manufacturer responsible - support unknown	hydrogen phosphide (46) – support unknown -
myclobutanil (181) (Dow AgroSciences)	myclobutanil (181) - pome fruits, stone fruits, black currant, grapes, strawberry, banana, hops, tomato ( <u>Pesticide Initiative Project – beans with pods</u> )

penconazole (182) (Syngenta)	penconazole (182) – Brassica Vegetables (Broccoli, Brussels sprouts, Cauliflower, Chinese cabbage), Pome Fruit, Fruiting Vegetables (Tomato, Pepper, Aubergine), Root and Tuber Vegetables (Carrot, Parsnip, Turnip), Cucurbit vegetables (Cucumber, Melon, Watermelon, Pumpkin, Zucchini), Berries (Blackberry, Blueberry, Blackcurrant, Gooseberry, Raspberry, Cranberry), Stone Fruit (Apricot, Cherry, Peach, Plum), Legume Vegetables (peas, beans), Nuts (Almond, Pecan, Cashew, Jujube, Pistachio, Hazelnut, Pine nut, Macadamia, Chestnut), Soya, Strawberry, Loganberry, Sugarbeet, Tobacco, Potato, Clementine, grapefruit, Nectarine, Kumquat, Mango, Gherkin, Loquat, Asparagus, Leek, Banana, Lambs Lettuce, Rocket, Chicory, Canola, Parsley, Mint, Papaya, Alfalfa, Barley, Rice, Wheat, Sweet Corn, Hops, Lentil, Persimmon, Avocado, Artichoke, Grapes, Onion, Fennel
phosalone (60) – (Cheminova) support unknown	phosalone (60) – support unknown
<b>EVALUATIONS</b>	<b>EVALUATIONS</b>

## 2015 JMPR

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
abamectin (177) (Syngenta)	abamectin (177) – Pome fruits, cucurbits (edible and inedible peel), grapes, citrus fruits, stone fruits, strawberries, hops, leafy vegetables (lettuce, spinach, endive, celery), potato, almond, walnut, bean, coffee, cotton, Fruiting vegetables (tomato, aubergine, pepper, sweet pepper), avocado, papaya, mango, avocado, onion
chlormequat (15) (BASF)	chlormequat (15) - Cereals, cottonseed, maize, rapeseed, maize fodder, cereals fodder/straw, meat, milk, eggs
clethodim (187) (Arysta Lifescience) - USA	clethodim (187) - bean, broccoli, cabbage, carrot, cranberry, cucurbits, hops, lettuce, pea, strawberry
ethephon (106) – (Bayer CropScience)	ethephon (106) - Apple, Barley, Barley straw and fodder, Blueberries, Cantaloupe, Cherries, Chili peppers (dry), Cotton seed, Dried grapes, Figs, Grapes, Hazelnuts, Peppers, Pineapple, Rye, Rye straw and fodder, Tomato, Walnuts, Wheat, Wheat straw and fodder, Chicken eggs, Edible offal of cattle, goats, horses, pigs & sheep, Meat of cattle, goats, horses, pigs & sheep, Milk of cattle, goats & sheep, Poultry meat, Poultry, edible offal.
fenpropimorph (188) – (BASF)	fenpropimorph (188) - banana, cereals, sugar beet, cereals fodder/straw, meat, milk, eggs
teflubenzuron (190) – (BASF)	teflubenzuron (190) – apple, orange, coffee, field corn, soybean, sugarcane, sunflower, tomato, melon, broccoli, cauliflower, grape, papaya

<b>EVALUATIONS</b>	<b>EVALUATIONS</b>

**2016 JMPR**

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>JMPR - RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
bioresmethrin (93) – (Sumitomo Chemical) - not supported by manufacturer	bioresmethrin (93) – not supported by the manufacturer
iprodione (111) (BASF)	iprodione (111) – (BASF) – tree nuts, cereals, beans, (dried), blackberry, broccoli, carrots, cheery, cucumber, grapes, kiwi, lettuce (head and leafy), onion, stone fruit, pome fruit, rapeseed, raspberry, sugar beet, sunflower, tomato, witloof.
permethrin (120) – (FMC) - not supported by the manufacturer	permethrin (120) – not supported by the manufacturer
tolclofos-methyl (191) – (Sumitomo Chemical)	tolclofos-methyl (191) – (Sumitomo Chemical) - (awaiting advice on commodities)
<b>EVALUATIONS</b>	<b>EVALUATIONS</b>

**2017 JMPR**

<b>TOXICOLOGICAL EVALUATIONS</b>	<b>RESIDUE EVALUATIONS</b>
<b>NEW COMPOUNDS</b>	<b>NEW COMPOUNDS</b>
<b>PERIODIC RE-EVALUATIONS</b>	<b>PERIODIC RE-EVALUATIONS</b>
fenarimol (192) (Gowan)	fenarimol
fenpyroximate (193) (Nihon Nohyaku)	fenpyroximate
fenthion (39) (Bayer CropScience)	fenthion
quintozene (64) (Crompton – AMVAC)	quintozene
<b>EVALUATIONS</b>	<b>EVALUATIONS</b>

## APPENDIX XIII

**PROPOSED DRAFT REVISION OF THE GUIDELINES ON THE ESTIMATION OF  
UNCERTAINTY OF RESULTS FOR THE DETERMINATION OF PESTICIDE RESIDUES  
APPENDIX TO CAC/RCP 59-2006**

**(Returned to Step 3)**

**Introductory notes**

At the 39<sup>th</sup> CCPR Meeting a discussion paper was prepared forming the basis for an addition to guidance document CAC/GL 59-2006, which was discussed at the 40<sup>th</sup> CCPR Meeting. It was decided to undertake new work to prepare an appendix to describe methods for estimating uncertainty based on method validations, quality control data, and proficiency testing.

This appendix supports the adoption of MU in laboratories dealing with pesticide residue analysis in foods, taking into account the complexity of pesticide residue analysis. The key considerations are:

- (a) elaboration of a practically oriented and straightforward guidance based on empirical top-down concepts;
- (b) allowing for simplified MU estimation for the ease of compliance with ISO Standard 17025<sup>25</sup>.
- (c) uncertainty related to sampling is not subject of this appendix.

The determination of residues at trace levels (0.001-10 mg/kg) is subject to considerable analytical variability. To have a sound estimate of the quality of results, the expression of MU is extremely demanding. To minimize disputes resulting from demonstrating the equivalence of analytical results generated by different laboratories, it is impractical to calculate individual values for numerous commodity/pesticide combinations when applying the bottom-up approach.

**OVERVIEW OF MU CONCEPTS**

ISO/TS 21748:2004<sup>26</sup> provides additional mathematical concepts especially for estimating zones of acceptance and rejection around analytical values; straightforward top-down approaches are also discussed. One important statement in this context is that the reproducibility standard deviation obtained from collaborative studies is considered as a valid basis for MU evaluation. If accuracy (or trueness) data can be utilized, e.g., with respect to an established reference value based on (certified) reference material, then uncertainty associated with the estimated bias should be included in the MU budget, such as:

- (a) reproducibility and bias estimates from collaborative study;
- (b) laboratory bias and precision within that expected on the basis of collaborative studies;
- (c) laboratory bias and precision under control and effects appropriately combined to form a combined uncertainty estimate.

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<sup>25</sup> See ISO/IEC Standard 17025, Para 5.10.3.1: In addition ... test reports shall ... include the following: “c) where applicable, a statement on the **estimated uncertainty** of measurement; information on uncertainty is needed in test reports when it is relevant to the validity of application of the test results, when a client’s instruction so requires, or when the uncertainty affects compliance to a specification limit.”

<sup>26</sup> Technical Specification ISO/TS 21748:2004: Guidance for the use of repeatability, reproducibility and trueness estimates in measurement uncertainty estimation, First edition 2004-03-15

Laboratories must be able to demonstrate that any uncertainty value is adequate to describe the performance of their analytical methods, through satisfactory participation in proficiency tests. The extrapolation of good performance for the analysis of one analyte/matrix combination to a broader scope of analysis should be based on the knowledge of the equivalence of the performance of the method within the considered scope of analysis.

#### PT BASED APPROACH

The emerging practice in the EU is to use a PT-based top-down estimation of  $\pm 50\%$  MU for the determination of pesticides residues in food. This takes into account method validation data and PT results. A PT-based generalized  $\pm 50\%$  MU approach should only be used by laboratories if the following analytical performance and quality criteria can be demonstrated (SANCO /10684/2009-Method Validation and Quality Control in Food and Feed).

- (a) Within-laboratory SD smaller than the between-laboratories SD.
- (b) Successful participation in PT schemes (z-score  $\leq 2$  for 95%, z-score  $\leq 3$  for not more than 5% of the values).
- (c) Small bias from method and/or laboratory recovery tests.
- (d) Verification of analytical performance by regularly analysing suitable reference material, if available.

Generally applicable MU estimation approaches currently are not feasible due to the lack of universally available PT studies, Reference Materials (RMs) or suitable collaborative studies. This limits the opportunity to apply top-down approaches to estimate MU based on data from such studies for pesticide residue analysis. In many cases, laboratories will need to rely on data from analysis of spiked samples (either from validation studies or on-going QC) to estimate bias and the uncertainty of bias, plus intra-laboratory reproducibility data for a reasonable estimate of MU.

#### HORWITZ BASED APPROACH

MU may also be estimated using Horwitz formulas, which are based on inter-laboratory study data. This takes into account that expected MU values are dependent on the residue level, i.e., the higher the residue concentration, the lower the anticipated relative MU. The Horwitz approach is expressed by the following equation (equivalent approximations<sup>27</sup> exist):

$$RSD_R = 2^{1-0.5 \log c} = 2 * c^{-0.1505}$$

with:

$$\begin{aligned} RSD_R &= \text{expected relative inter-laboratory standard deviation (\%)} \\ c &= \text{concentration of the analyte (expressed as kg/kg, i.e.,} \\ &\quad 0.01 \text{ mg/kg} = 0.00000001 \text{ kg/kg)} \end{aligned}$$

Real figures to the above formulas concentration result in concentration dependent  $RSD_R$ :

$$\begin{aligned} 0.01 \text{ mg/kg} &\Rightarrow 32.0 \% \\ 0.1 \text{ mg/kg} &\Rightarrow 22.6 \% \\ 1 \text{ mg/kg} &\Rightarrow 16.0 \% \end{aligned}$$

$RSD_R$  values depending on the respective concentration levels can be transformed into MU by multiplying with an appropriate coverage factor, normally  $k = 2$ , which represents 95% probability of being correct.

Advantages of this concept<sup>28</sup> include the incorporation of laboratory bias because laboratory variability is also randomized. Deviations generated by different laboratories are included and the Horwitz equation was found to be widely applicable to all concentration, methods and analytes. When following the Horwitz

<sup>27</sup> M. Thompson and P. J. Lowthian: The Horwitz Function Revisited. JAOAC International, Vol. 80, No 3, 1997, 676-679.

<sup>28</sup> L. Alder et al.: Estimation of Measurement Uncertainty in Pesticide Residue Analysis. JAOAC International. Vol. 84, No 5, 2001, 1569-1577.

approach and taking into account concentration dependent  $RSD_R$  values, it is recommended to estimate the MU values for application at the Codex MRL

Note: Drawbacks associated with Horwitz approaches are that appropriate and sufficient data are used as the basis for the estimation of a valid relation between concentration and uncertainty since the data came from a highly diverse range of collaborative trials with concentrations ranging from 0.05 µg/kg to 600g/kg (60%), involving a large number of other compounds than pesticides. Prescribed methods were applied and PT data were not included. Ever since the establishment of the Horwitz equation, instrumentation technology has experienced significant advancements both in terms of sensitivity and selectivity, which may reduce the uncertainty contribution by the instrumental measurement process.

#### MU VALUES IN PESTICIDE RESIDUE ANALYSIS BASED ON LABORATORY DATA

Method validation data verify recovery values and variability of results and characterize analytical method performance. In practical terms inter- and intra-laboratory data can be utilized by laboratories to estimate MU from validation studies and/or verification experiments and adjusted by the use of long term intra-laboratory quality control data, such as recovery, repeatability, reproducibility, (im)precision and bias from a combination of studies:

- intra-laboratory QC plus results from proficiency studies;
- intra-laboratory QC plus results from analysis of a matrix RM;
- intra-laboratory QC plus recoveries from spiked samples;
- validation data, noting that allowance is necessary if precision is evaluated under repeatability conditions.

#### USE OF PT DATA TO EVALUATE MU

##### General Requirements

In SANCO document 10684/2009, “Method Validation and Quality Control Procedures for Pesticide Residues Analysis in Food and Feed”, therein “Acceptability of analytical performance for routine recoveries”, the following is required:

- Individual recovery result should normally be in the range of the mean recovery  $\pm 2 \times \%RSD$ .
- Addition of a spiked sample to each batch of analysis.
- Results may be used for quality control charts.

##### Long-term quality control

Suitable materials for long-term quality control are:

- Reference matrices.
- Remaining materials from proficiency tests.
- Spiked samples or incurred samples

These materials and their analytes are required to be stable.

##### Formulas and statistics for PT based estimation of MU

Within-laboratory reproducibility standard deviation is combined with estimates of the method and laboratory bias using PT data:

$$U' = k * u' \quad ; \quad \text{and} \quad u' = \sqrt{u'(R_w)^2 + u'(bias)^2}$$

where:

$$u'(bias) = \sqrt{RMS'_{bias}{}^2 + u'(C_{ref})^2}$$

and:

$$RMS'_{bias} = \sqrt{\frac{\sum (bias'_i)^2}{m}} \quad \text{and:} \quad u'(C_{ref}) = \frac{\sum \frac{S'_{Ri}}{\sqrt{n_i}}}{m}$$

where:

$U'$	=	expanded relative uncertainty
$k$	=	coverage factor
$u'$	=	combined relative standard uncertainty
$u'(R_w)$	=	intermediate precision relative standard uncertainty
$u'(bias)$	=	relative standard uncertainty component from method and laboratory bias, based on PT data
$RMS'_{bias}$	=	root mean square of relative bias values
$bias'_i$	=	relative bias of PT <sub>i</sub> [(obtained result <sub>i</sub> – assigned value <sub>i</sub> )/assigned value <sub>i</sub> ]
$u'(C_{ref})$	=	average relative standard uncertainty of assigned values
$S'_{Ri}$	=	interlaboratory relative standard deviation of PT <sub>i</sub>
$n_i$	=	number of participants in PT <sub>i</sub>
$m$	=	total number of residues

#### Practical application using PT-based MU

- (1) Prerequisites for using an expanded relative standard uncertainty of +/-50%:
  - The laboratory has demonstrated its technical capability to generate reliable results at the required level of quality, i.e. by:
    - validation data for the respective analytical method;
    - acceptable quality control data, e.g., control charts for respective methods and compounds;
    - successful participation in PT schemes which fulfil PT quality criteria conducted according to the Harmonized Protocol<sup>29</sup>, ISO Guide 43-1 etc.;
    - evidence of the equivalence of the performance of the analytical method for selected analytes and commodities representing the entire scope of analysis.
- (2) Uncertainty evaluation using laboratory evaluation data:
  - identification of the main sources of uncertainty (weighing, calibration, purity, temperature, volumetric glassware, etc.);
  - evaluation of the order of magnitude of the uncertainty of basic laboratory operations in relation to the overall uncertainty of the procedure;
  - expected result:
    - uncertainty of basic laboratory operations almost negligible;
    - random run-to-run variability as the principal source of MU;
  - estimation of overall bias and recoveries from in-house validation and quality control data (fortification, spiking, reference materials, etc.):
    - the mean of the resulting relative standard deviation taken as relative uncertainty is associated with random variation;
    - analyte mean recovery within 70-120%.
- (3) Comparison with PT results:

<sup>29</sup> M Thompson, S L R Ellison, R Wood; The International Harmonized Protocol for the proficiency testing of analytical chemistry laboratories (IUPAC Technical Report); Pure Appl. Chem. 78(1) 145-196 (2006)

- series of PT rounds with slightly varying concentrations and matrices;
  - the relative standard deviation of valid data is comparable to the expected relative standard deviation (comparing PT results with real laboratory data).
- (4) Verification of uncertainty estimates:
- checks using observed within-laboratory precision;
  - checks using certified reference materials or suitable test materials;
  - checks using reference methods;
  - checks based on the results of PT (including external QA data or measurement audits);
  - checks based on comparison of results with other laboratories;
  - comparison with other uncertainty estimates based on different approaches or different data (some approaches are expected to produce significantly different MU estimations).

#### Evaluation of uncertainty estimates against PT results

Checking the quality of uncertainty estimates may apply the zeta ( $\zeta$ ) score formula laid out in the Eurolab Report:

$$\zeta = \frac{x - x_a}{\sqrt{u(x)^2 + u(x_a)^2}}$$

where:

- x = laboratory result
- $x_a$  = assigned value
- $u(x)$  = standard uncertainty of laboratory results
- $u(x_a)$  = standard uncertainty of assigned values

Uncertainties are considered correct if  $|\zeta|$  is in the range 0 to 2; underestimated if  $|\zeta|$  is frequently over 2.

#### Limitations of the application of PT values

In general, proficiency tests are not carried out frequently enough to provide good estimates of the performance of an individual laboratory's implementation of a test method. However, in the special case where:

- the types of test items used in the scheme are appropriate to the types tested routinely
- the assigned values in each round are traceable to appropriate reference values
- the uncertainty associated with the assigned value is small compared with the observed spread of results;

The dispersion of the differences between reported and assigned values obtained from repeated rounds provides a basis for an evaluation of the uncertainty (see Eurolab and NORDTEST references).

A PT-based top-down approach is therefore applicable where PT data support this. Referring to EC-PT schemes this approach could be different for various matrices and pesticide/ matrix combinations.



## Examples of calculations for MU

### Case 1: Expanded relative standard uncertainty ( $U'$ ) using Horwitz formulas

This approach is concentration dependent on the respective pesticide residue levels. Therefore a range of values can be obtained. The formula is:

$$u' = 2^{1-0.5 \log c}$$

$u'$  = relative inter-laboratory standard deviation

$c$  = concentration of analyte

e.g., for a concentration of  $c = 0.01$  mg/kg the calculated values are:  $u' = 32\%$ , and  $U' = 64\%$ . Accordingly for  $c = 1.0$  mg/kg it becomes  $u' = 16\%$ , and  $U' = 32\%$ .

This formula may be taken for calculating the expanded uncertainty. However, it was designed for analysis of any compound not just pesticides. Ever since the establishment of the Horwitz equation, instrumentation technology has experienced significant advancements both in terms of sensitivity and selectivity, which may reduce the uncertainty contribution by the instrumental measurement process. The resulting estimates of uncertainty accordingly are based on the distribution of between-laboratory standard deviations.

### Case 2: Practical application of the top-down approach on MU estimation by utilizing PT and internal validation and quality assurance data.

Application example:

$$S_R = \sqrt{S_{ip}^2 + S_{bl}^2}$$

When each laboratory report the mean of  $n$  replicated measurements obtained within the laboratory in intermediate precision conditions (e.g. different days), the reproducibility of the method is reduced from  $S_R$  to  $S_{R;n}$ :

$$S_{R;n} = \sqrt{\frac{S_{ip}^2}{n} + S_{bl}^2}$$

Considering the reproducibility,  $S_{R;2}$ , of an analytical method estimated in a inter-laboratory trial where each participant reports the mean of two replicates obtained within a laboratory in intermediate precision conditions, equal to 0.2325 mg/kg (mean concentration of 0.93 mg/kg and RSD of 25 %):

$$S_{R;2} = 0.2325 = \sqrt{\frac{S_{ip}^2}{2} + S_{bl}^2}$$

If the relative intermediate precision standard deviation is 17 % (i.e. 0.1581 mg/kg), then:

$$S_{R;2} = 0.2325 = \sqrt{\frac{0.1581^2}{2} + S_{bl}^2}$$

Therefore:

$$S_{bl} = \sqrt{0.2325^2 - \frac{0.1581^2}{2}} = 0.2038 \text{ mg / kg}$$

The reproducibility,  $s_R$ , associated with single measurements is:

$$S_R = \sqrt{S_{ip}^2 + S_{bl}^2} = \sqrt{0.1581^2 + 0.2038^2} = 0.2579 \text{ mg / kg}$$

Therefore, it should be reported an expanded relative uncertainty associated with single measurements of 55 %.

In the last EUPTs a FFP RSD of 25% has been used demonstrating that a variability of 25% can be accepted as a noticeable representation of laboratory performances for MRM in pesticides residues in fruit and vegetables. Therefore it is a prerequisite to participate in PTs and to have a successful score in order to apply this type of uncertainty estimate, i.e., to use FFP and a RSD of 25%, resulting in a relative standard uncertainty of  $u' = 25\%$  and an expanded relative standard uncertainty of  $U' = 50\%$ , respectively, meaning acceptable variability of results of  $\pm 50\%$  at 95% confidence level.

Note: There is a relation between the following precision values:

$s_{ip}$  – intermediate precision standard deviation;

$s_{bl}$  – between laboratory precision standard deviation;

$s_R$  – reproducibility standard deviation.

Laboratory A, using a GC multi residue method, participating in European Union Proficiency Testing Schemes (EUPT) 3 and 11, the above formulae resulted in the following:

Relative bias and average relative standard deviation calculus for EUPTs

EUPT 3	(bias')	(bias') <sup>2</sup>		S' <sub>Ri</sub>	n <sub>i</sub>	√n <sub>i</sub>	S' <sub>Ri</sub> /√n <sub>i</sub>
Deltamethrin	-0.406	0.1652		0.370	116	10.770	0.034
Diazinon	0.028	0.0008		0.220	116	10.770	0.020
Endosulfan	-0.086	0.0074		0.290	116	10.770	0.027
Metalaxyl	-0.175	0.0307		0.320	116	10.770	0.030
Permethrin	0.172	0.0296		0.300	116	10.770	0.028
Pirimiphos-methyl	0.184	0.0337		0.310	116	10.770	0.029
Vinclozolin	-0.174	0.0302		0.280	116	10.770	0.026
<i>(EUPTs 4 – 10 not listed here)</i>							
EUPT 11							
Deltamethrin	-0.121	0.0146		0.250	151	12.288	0.020
Diazinon	-0.088	0.0077		0.260	151	12.288	0.021
Isofenphos-Methyl	-0.078	0.0060		0.240	151	12.288	0.020
Lambda-Cyhalothrin	-0.207	0.0428		0.240	151	12.288	0.020
Metalaxyl Sum	-0.011	0.0001		0.210	151	12.288	0.017
Parathion-Methyl Sum	-0.134	0.0181		0.240	151	12.288	0.020
Phosalone	0.041	0.0017		0.300	151	12.288	0.024
Procymidone	-0.038	0.0015		0.200	151	12.288	0.016
	Sum	4.2552				Sum	1.5662

	m	68		m	68
	RMS <sup>2</sup> <sub>bias</sub>	0.2501		u <sup>2</sup> (C <sub>ref</sub> )	0.0230
	RMS <sup>2</sup> <sub>bias</sub>	0.0626		u <sup>2</sup> (C <sub>ref</sub> ) <sup>2</sup>	0.00053
u'(bias) = {(0.0626 + 0.000530)} <sup>1/2</sup> = 0.251212198					

Going back to  $u' = u' \{(R_w)^2 + u'(\text{bias})^2\}^{1/2}$ ,  $u'(R_w)$  becomes 0.11 (taken from intra-laboratory validation and/or QC data),  $u' = \{(0.11)^2 + (0.251212198)\}^{1/2} = 0.27$ , resulting in  $U' = 54\%$ . (based on all data from EUPT 3 - 11).

### Case 3: Uncertainty arising from run-to-run variability and in-house validation experiments

Known quantities of pesticide standards are added to representative matrices. These experiments provide three types of uncertainty, one arising from the estimation of the overall bias, one coming from recovery experiments and one derived from reference standards added to the test sample. They also include the effects of changes of sample type and change of pesticides.

The calculation of uncertainty within a laboratory based on reproducibility estimation is:

$$u_{c,rel} = \sqrt{\frac{RSD_R^2}{n_m} + u_{mr,rel}^2 + \frac{RSD_R'^2}{n_R}}$$

where:

- $RSD_R^2 / n_m$  – relative standard deviation of five replicates at different calibration levels, where  $n_m$  is the number of replicates
- $u_{mr,rel}^2$  – relative standard uncertainty derived from the use of reference material, volumetric calibration, weighing calibration, etc.; it is considered to lie between 1 and 2%.
- $RSD_R'^2 / n_R$  – relative standard deviation of all recovery data, at different levels, different matrices and different pesticides, with  $n_R$  representing the number of data used. Normally laboratories not correcting for recovery do not need to apply this factor.

In a practical case:

$$u_{mr,rel} = \sqrt{0.05^2 + 0.01^2 + 0.11^2} \Rightarrow u' = 12\%; \quad U' = 24\%$$

## Case 4: Calculation example from validation studies provided by USA (USDA)

Commodity	Compound	Mean Recovery (%)	Std Deviation of Recoveries	Measurement Uncertainty (2*Std Dev)	N (data points)	N (labs)	Range of Spike Values (ppm)	Expected Inter-laboratory (Minimum) or Intra-laboratory %CV based on Horwitz	Expected Inter-laboratory (Maximum) %CV based on Horwitz	Expected Inter-laboratory (Minimum) or Intra-laboratory Std Deviation derived from expected Horwitz values	Expected Inter-laboratory (Maximum) Std Deviation derived from expected Horwitz values
		Average Calculated by Excel	Std Deviation Calculated by Excel <sup>1</sup>	2 x Standard Deviation	Number of Routine Recoveries Run with Sample Sets	Number of Labs	Range if 2 Labs; Single Value if 1 Lab	Inter-lab = $2^{(1-0.5*\log C)}$ : calculated based on higher spike level, which would give lower or minimum value; Intra-lab = $0.67*2^{(1-0.5*\log C)}$ : calculated based on single lab	Inter-lab = $2^{(1-0.5*\log C)}$ : calculated based on lower spike level, which would give higher or maximum value	Expected %CV x Mean (expressed numerically - e.g., 110.1=1.101)	[(Expected %CV)/100] x Mean (expressed numerically - e.g., 110.1=1.101)
Asparagus	Diuron	110.1	12.6	25.2	20	2	0.040-0.072	23.8	26.0	26.2	28.6
Blueberries	Boscalid	96.7	15.6	31.1	45	2	0.015-0.040	26.0	30.1	25.1	29.1
Broccoli	Imidacloprid	83.0	15.4	30.7	36	1	0.002	27.2	NA	22.6	NA
Celery	Endosulfan Sulfate	93.9	19.3	38.5	36	2	0.028-0.131	21.7	27.4	20.4	25.7
Grape Juice	Carbaryl	74.5	18.9	37.8	33	2	0.004-0.014	30.4	36.7	22.6	27.3

Green Beans	Acephate	68.3	6.4	12.8	26	2	0.014-0.030	27.1	30.4	18.5	20.8
Greens (collard/cale)	Azoxystrobin	105.0	18.4	36.8	27	2	0.003-0.004	36.7	38.4	38.5	40.3
Peaches	Myclobutanil	106.9	15.7	31.3	25	2	0.0066-0.134	21.7	34.1	23.2	36.5
Spinach	Chlorpyrifos	109.5	9.5	18.9	28	2	0.014-0.025	27.9	30.4	30.6	33.3
Strawberries	Metalaxyl	88.8	25.0	50.0	36	2	0.0197-0.066	24.1	28.9	21.4	25.7
Summer Squash	Bifenthrin	91.4	23.1	46.3	23	2	0.0266-0.066	24.1	27.6	22.0	25.2

1. STDEV uses the following formula:

$$\sqrt{\frac{\sum (x - \bar{x})^2}{(n - 1)}}$$

2. For Horwitz calculation, C = concentration, expressed such that 1 mg/kg would be  $1 \times 10^{-6}$

**Case 5: Comparison of MU estimation approaches**

This example is for confirming that PT-based values of  $u'$  may be assumed as correct if  $|z|$  is in the range of 0 – 2. It is then compared with  $u'$  from Horwitz and FFP RSDs:

Laboratory example: pesticide bupirimate

Intra-laboratory		Horwitz-based		PT-based	
x	0.959	x	0.959	x	0.959
$x_a$	0.79	$x_a$	0.79	$x_a$	0.79
Example 2 $u'$	0.27	Horwitz RSD	0.16	FFP RSD	0.25
Qn	0.25	Qn	0.25	Qn	0.25
$u(x) = x u'$	0.259	$u(x) = x$ Horwitz	0.153	$u(x) = x$ FFP	0.240
$u(x_a) = x_a Qn$	0.198	$u(x_a)$	0.198	$u(x_a)$	0.198
zeta score	0.52	zeta score	0.68	zeta score	0.54

where:

- x = laboratory result
- $x_a$  = assigned value
- $u(x)$  = standard uncertainty of laboratory results